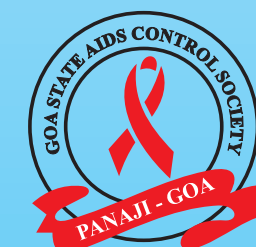
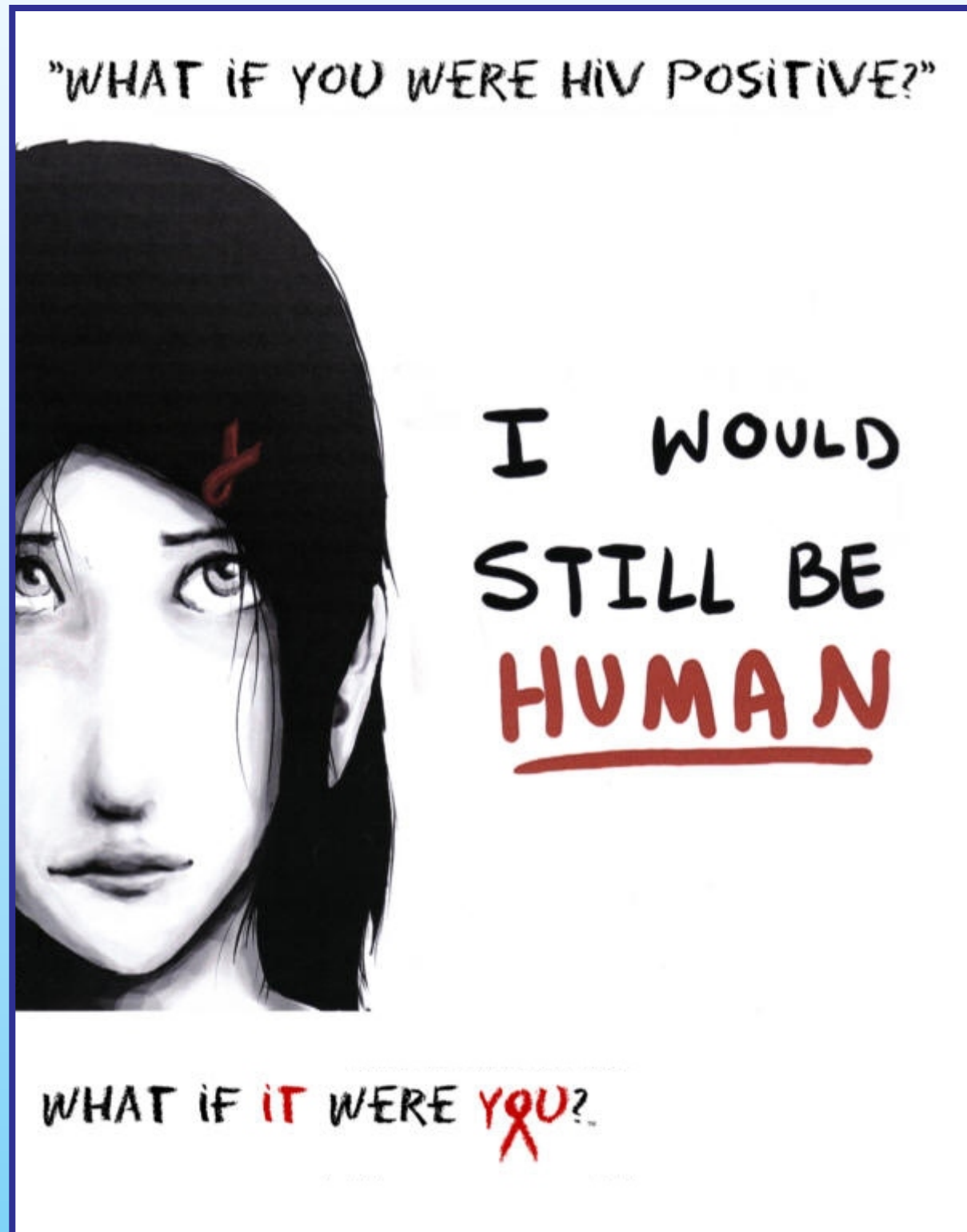


HIV/AIDS in Goa SITUATION & RESPONSE 2013



GOA STATE AIDS CONTROL SOCIETY
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Hon'ble Health Minister, Shri Laxmikant Parsekar addressing the gathering during the inaugural function of World AIDS Day at Sankhali



Police personnel attending the workshop on HIV/AIDS at Police Training Centre, Valpoi.



Hon'ble Speaker of Goa, Shri Rajendra Arlekar, lighting the lamp during the inaugural function of International Youth Day



Anganwadi workers attending the workshop on HIV/AIDS at Municipality Hall, Bicholim



Government of Goa

HIV/AIDS IN GOA

Situation and Response

2013



GOA STATE AIDS CONTROL SOCIETY

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Shri Manohar R. Parrikar
Hon'ble Chief Minister



Shri Laxmikant Parsekar
Hon'ble Health Minister



Shri B. Vijayan
Chief Secretary cum Goa SACS
Governing Body Chairman,
Government of Goa



Shri Parimal Rai
Principal Secretary (Health)
cum Goa SACS Executive
Committee Chairman,
Government of Goa



Dr. Digambar Naik
Core Committee Chairman,
Goa SACS



Dr. Vandana Patankar
Project Director
Goa SACS

The Governing Body of Goa State AIDS Control Society

1) Chief Secretary	---	Chairman
2) Commissioner, Finance	---	Member
3) Secretary, Health	---	Member
4) Secretary, Planning	---	Member
5) Secretary, Social Welfare	---	Member
6) Secretary, Education	---	Member
7) Secretary, Industry	---	Member
8) Secretary, Women and Child Welfare	---	Member
9) Secretary, Labour	---	Member
10) Secretary, Urban Development	---	Member
11) Secretary, Transport	---	Member
12) Secretary, Tourism	---	Member
13) Dean, Goa Medical College	---	Member
14) Director, Health Services	---	Member
15) Director, Information and Publicity	---	Member
16) Director, Sports & Youth Affairs	---	Member
17) Director, Tourism	---	Member
18) N.S.S Coordinator, Goa University	---	Member
19) Station Director, All India Radio	---	Member
20) Station Director, Doordarshan	---	Member
21) Representative of UNICEF/WHO	---	Member
22) Representative of NACO	---	Member
23) Project Director, Goa SACS	---	Member Secretary

Executive Committee of Goa State AIDS Control Society

1. Pr. Secretary, Health	Chairman
2. Dean, Goa Medical College	Vice-Chairman
3. Director, Health Services	Vice-Chairman
4. Director, Education	Member
5. Director, Women & Child Welfare	Member
6. Joint Secretary, Finance	Member
7. Director, Tourism	Member
8. N.S.S Coordinator, Goa University	Member
9. Director, Social Welfare	Member
10. Representative, Kripa Foundation, NGO	Member
11. Representative of NGOs	Member
12. Representative of NGOs	Member
13. Representative of NGOs	Member
14. Prof & Head, Department of Microbiology, GMC	Member
15. Chairperson, Goa State Social Welfare Board	Member
16. HOD, Department of PSM, GMC	Member
17. President, Goa Psychiatric Society	Member
18. Project Director, Goa SACS	Member Secretary

Special Invitees:

1. Ms. Radhika Naik, Principal of Srinivassa Sinai Dempo College of Commerce & Economics, Altinho, Panaji.
2. Shri Mangirish Pai Raikar, Chairman, Green Triangular Society, Inspectorate of Factories and Boilers, Altinho, Panaji
3. Dr. Sunil Kakodkar, General Manager, Group Medical Services, Sesa Steralite Ltd; Sesa Ghor, EDC Complex, Patto, Panaji.

Core Committee of Goa State AIDS Control Society

- | | |
|--------------------------------------|-------------------------|
| 1) Dr. Digambar Naik | Chairperson |
| 2) Mrs. Vidya Shet | Vice-Chairperson |
| 3) Dean, Goa Medical College | Member |
| 4) Shri Jagannath Parsekar | Member |
| 5) Dr. Wisemen Pinto | Member |
| 6) Director, Health Services | Member |
| 7) Joint Secretary, Health | Member |
| 8) Project Director, Goa SACS | Member Secretary |

Preface

AIDS is one of the greatest challenges facing our generation. AIDS is a new type of emergency – an unprecedented threat to human development requiring sustained action and commitment over the long term. AIDS has been with us for more than two decades. It will continue to challenge us for many decades to come but how far it spreads and how much damage it does, is entirely up to us. Today, around 35.3 million people are living with HIV/AIDS throughout the world. This number increases in every region every day. As per the latest estimates of UNAIDS, in India alone 2.09 million people are living with HIV/AIDS. Ignorance and prejudice are fuelling the spread of a preventable disease.

The year 2013 is a year to look back. It was exactly 32 years ago that HIV/AIDS made its appearance on the world stage. HIV/AIDS epidemic is nearly 26 years old in Goa. Now it is time to sit up and take stock. Goa SACS and its partners have a lot of introspection to do. Some inroads have been made but a lot more needs to be done. We need to take lessons from the past and plan effective strategies for the future. The most important lesson we have learnt so far is that we can make a difference. We can prevent new infections and we can improve the quality of care and treatment for People Living with HIV/AIDS. The analysis of the epidemic reveals that the number of new HIV infections has declined more than 20% during last four years. This is one of the most important evidence on the impact of the various interventions under taken by National AIDS Control Programme and scaled up intervention strategies. Now we need to find answers to what more can be done to reverse the trends of this epidemic. How to contain the spread of HIV/AIDS from high risk groups to the general population and from urban to rural areas? How to make youth and women less vulnerable? How to ensure better accessibility to various services such as ICTCs, ART, PPTCT, STDs, condom promotion, etc. made available by the Government for the prevention and control of HIV/AIDS? How to improve the quality of services that are being provided?

HIV/AIDS is still in early stages in Goa and effective responses are possible now. Unless more is done today – not only do more but also do it better – it is sure to cause devastation on an unprecedented scale and would reverse the achievements of the last few decades. In Goa, HIV

prevalence rate is less than 1%. Government of Goa is fully committed to prevent the spread of HIV/AIDS at the initial stage itself. But Government alone cannot do it. It is everyone's responsibility. It's up to you, me and us to stop the spread of HIV and end prejudice. People need to respond effectively to the threat that the community is facing. Prevention is important. We must never lose sight of doing everything we can do to prevent people from becoming infected in the first place.

While keeping the spirit of international theme for the AIDS campaign for this year, **“Getting to Zero”** (i.e. Zero New HIV Infections, Zero Discrimination and Zero AIDS Related Deaths) we need to focus on children, youth and women by calling upon them to take charge of their lives to fight AIDS.

Further, we need to address stigma and discrimination through all communication channels, as they are the main barriers of AIDS prevention and control efforts need to be prioritized. Goa resolves to defeat HIV/AIDS by creating total awareness on transmission & prevention, by holding extensive youth education campaigns and curriculum based school AIDS education programme, by creating a partnership across all stakeholders, by saturating targeted intervention in high risk groups, by providing care & support to people living with HIV/AIDS, by removing stigma & discrimination, by providing voluntary counseling & testing facilities at peripheral levels, by providing Anti Retroviral Therapy for PLHAs and by organizing mass mobilization campaigns across Goa. We must acknowledge that the battle against AIDS is poised at a challenging level. If we join hands we can triumph and if we don't, the grim scenario can well be envisaged. We can and we must overcome this crisis.

I would like to place on record my sincere appreciation of the efforts made by Shri Tolentino T. Furtado, Statistical Officer in bringing out this revised publication. The secretarial assistance provided by Shri Sandesh Bhagat, Computer Literate Steno in bringing out this brochure is also acknowledged.

Place: Panaji
Date: 30/04/2014

Project Director, Goa SACS

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Figures at a Glance

A: Global Scenario

- First case detected among homosexuals in USA in 1981.
- Reported number of AIDS cases in 1991 was 0.37 million.
- Estimated number of people living with HIV/AIDS as on December, 2012 was 35.3 million.
- People newly infected with HIV in the year 2012 were 2.3 million.
- World wide 3.3 million children younger than 15 years were living with HIV up to 2012. During the year 2012, New HIV infections among children (0-14 years) were 2.60 lakh.
- Everyday, 6300 new infections occurred in the world in 2012 despite the fact more is known than ever before about prevention and control of the epidemic.
- 97% of all HIV/ AIDS infected people are living in developing countries.
- Globally, young women 15-24 years old are most vulnerable to HIV infections, with infection rates twice as high as among men of the same age.
- Worldwide women comprise an increasing number of adults living with HIV/ AIDS. Women accounted for about 47 % of the adults infected in 2012. In Sub-Saharan Africa, women represent more than half (60%) of all people living with HIV/ AIDS.
- HIV/ AIDS has had profound impact on teens and young adults. 39% of new HIV infections and almost one-third of the global total of people living with the disease are aged 15-24. In certain African countries, HIV infection rates are five times higher among young women than men.
- Since the onset of epidemic, 36 million deaths have occurred all over the world. During 2012 alone, there were 1.6 million deaths due to AIDS out of which 2.10 lakh were children (<15 years).
- World over the predominant mode of transmission is through sexual intercourse being 75%, followed by injecting drug use (10%), Perinatal (10%) and blood and blood products (5%).

B: Indian Scenario

- First case of HIV detected among sex workers in Chennai in 1986.
- It is estimated that India had approximately 1.16 lakh new HIV infections in 2011 as against 2.7 lakh in 2000.
- Of the 1.16 lakh estimated new infections in 2011, the six high prevalence States account for only 31 % of the cases.
- As per the latest estimates, 20.9 lakh people are living with HIV/ AIDS in India at the end of year 2011.
- Adult HIV prevalence at National level has declined from 0.41 % in 2001 to 0.27 % in 2011, the estimated number of new annual HIV infections has declined by more than 50 % over the past decade.
- The adult HIV prevalence in India is 0.26 % among women and 0.38 % among men in 2008 and 0.25 % among women and 0.36 % among men in 2009. Adult HIV Prevalence among male and female is estimated at 0.32 % and 0.22 % respectively.
- In 2011, among the States, Manipur has shown the highest estimated adult HIV prevalence of 1.22 %, followed by Andhra Pradesh (0.75 %), Mizoram (0.74 %), Nagaland (0.73 %) Karnataka (0.52 %), Goa (0.43 %) and Maharashtra (0.42 %)
- Odisha, Gujarat, Tamil Nadu and Chandigarh have shown estimated adult HIV prevalence greater than national prevalence (0.27 %).
- Around 14,500 New HIV infections among children occurred during 2011.
- HIV prevalence infection is now prevalent in all parts of the country.
- All the high prevalence States have shown a clear declining trend in adult HIV prevalence. However, the low prevalence States of Chandigarh, Orissa, Kerala, Jharkhand, Uttarakhand, Jammu & Kashmir, Arunachal Pradesh and Meghalaya show rising trends in adult HIV prevalence in the last four years.
- It is estimated that 1.48 lakh people died of AIDS related causes in 2011 in India. Wider access to ART has resulted in a decline of the number of people dying due to AIDS related causes. The trend of annual AIDS deaths is showing a steady decline since the roll out of free ART programme in India in 2004.
- Almost 86 % of the reported HIV+ cases belong to the age group 15-49 years i.e. mainly the people who are sexually active and in the economically productive age group.
- Relatively, the disease affects females of younger age group more than males. About 43 % of the females infected belonged to the age group 15-29 as against 27 % for males.
- The predominant mode of transmission is through heterosexual contacts (88.6 %), followed by perinatal (5.4 %), IDUs (1.7 %) and blood and blood products (1.1 %) and Not specified 3.2 %.

C: Goan Scenario

- First case of HIV detected in 1987.
 - 1987- First Case detected in a Foreigner
 - 1988- An Indian but a non Goan
 - 1989- First Case detected in a Goan Student
- Total number of HIV+ cases detected in Goa since 1987 to 2013 is 15,205.
- Total AIDS cases reported to Goa SACS up to December 2013 is 1,618.
- Reported AIDS deaths 1012 up to December 2013.
- HIV infection is now prevalent in all parts of Goa and majority of the cases are reported in the four coastal talukas viz. Salcete (18.4%), Mormugao (12.8%) in South Goa District and Tiswadi (11.5%) and Bardez (14.9%) in North Goa District during 2013. Out of 505 cases reported in Goa during the year 2013, 23.2% belong to other States /foreigners/not specified.
- 79.8% of the cases detected in Goa during 2013 belong to the age group 15-49 years.
- The disease is more common in males than females. Out of every three cases detected two are males. Whereas in 1997, out of four cases detected three were males.
- During 2013, out of the total female infected cases nearly 37.5% belong to the age group 15-34 whereas around 30.5% of the infected males belonged to this age group.
- In the age group 35-49, over 49% males and about 42% females were found infected out of the total male and female cases detected during 2013.
- During 1999-2013, Sexual route is the predominant mode of transmission in the range of 83 to 96% followed by Perinatal 4 to 7.6%. Transmission through blood and blood products and infected syringes and needles is negligible in Goa.

1 - Overview of the AIDS epidemic

1.1 HIV/AIDS

Acquired Immuno Deficiency Syndrome (AIDS) is caused by Human Immunodeficiency Virus (HIV). It is a serious disorder of the human immune system in which the body's normal defence system breaks down, leaving it vulnerable to a host of life threatening infections/ conditions including unusual malignancies. HIV / AIDS is not a disease which spreads randomly but is transmitted as a consequence of a specific behavioural pattern and has strong socio-economic implications. It not only costs huge sums of money in terms of controlling the opportunistic infections such as tuberculosis, pneumonia and cryptococcal meningitis, but also seriously affects individuals in their prime reproductive years causing serious economic loss to them, their families and the community; destroying people's lives and in many cases seriously damaging the fabric of societies. AIDS is unique in human history in its rapid spread, its extent and depth of its impact. Since the first AIDS case was diagnosed in 1981, the world has struggled to come to grips with its extraordinary dimensions. Few communities recognized the dangers ahead, and even fewer were able to mount an effective response.

1.2 Global Scenario

HIV/ AIDS has brought about a global epidemic far more extensive than what was predicted a decade ago. UNAIDS estimates show that the number of people living with HIV/AIDS globally at the end of the year 2012 stood at 35.3 million. The HIV/ AIDS epidemic continues its expansion across the globe with about 2.3 million newly infected cases including 2.60 lakh children under the age of 15 years in the year 2012. Approximately, 6300 new infections occur every day in the world despite the fact that more is known than ever before about prevention and control of the epidemic. About 97% of all HIV/ AIDS infected people are living in developing countries least able to afford to care for the infected people but have to cope with the huge burden of suffering and deaths. Although HIV/ AIDS can affect all ages, about half of the new infections occur in young adults before they are 25 years old and who, if untreated, will die within 10 years of contracting the infection. Since the onset of the epidemic, 36 million deaths have occurred all over the world. HIV deaths continue to increase, with an estimated 1.6 million during 2012 alone. HIV has more than doubled the adult death rate in some places, and is the single biggest cause of adult deaths in many countries. Indeed HIV/

AIDS is among the top ten killer worldwide and at given current rate of HIV infection it may soon move into the top five. Over 90% of the HIV infected babies are born to positive mothers in Sub-Saharan Africa and worldwide there has also been a cumulative total of over 16.6 million AIDS orphans. AIDS is the most globalized epidemic in history and we are witnessing its growing ‘feminization’. Every year brings an increase in the number of women infected with HIV. Globally nearly half of all persons infected between ages of 15-49 are women and in Africa the proportion is reaching 60%. Because of gender inequality, women living with HIV/AIDS often experience greater stigma and discrimination.

Table No.1: Global summary of the AIDS epidemic, 2012

Global summary of the AIDS epidemic, 2012

Number of people living with HIV	Total	35.3 million [32.2 – 38.8 million]
	Adults	32.1 million [29.1 – 35.3 million]
	Women (aged 15 and above)	17.7 million [16.4 – 19.3 million]
	Children under 15 years	3.3 million [3.0 – 3.7 million]
People newly infected with HIV in 2012	Total	2.3 million [1.9 – 2.7 million]
	Adults	2.0 million [1.7 – 2.4 million]
	Children under 15 years	260 000 [230 000 – 320 000]
AIDS-related deaths in 2012	Total	1.6 million [1.4 – 1.9 million]
	Adults	1.5 million [1.2 – 1.7 million]
	Children under 15 years	210 000 [190 000 – 250 000]

Source: UNAIDS

HIV/ AIDS epidemic is characterized by marked regional variations between developing countries. In Sub-Saharan Africa, an estimated 1.6 million people have been newly infected with HIV in 2012 alone, which was nearly three fourth of the global annual total. Sub-Saharan Africa remains the hardest hit region, where the epidemic is having a devastating effect on social, economic and political development. This region alone in 2012 accounted for 69% of all the new HIV/ AIDS infections and 75% of all deaths due to this disease.

It is estimated that 4.7 million people are living with HIV/AIDS in Asia and the Pacific at the end of 2012. While HIV prevalence in adult population continues to be relatively low in many Asian countries, available behavioural data suggest increasing population vulnerability. Asian countries owing to their large populations have the potential to develop very large HIV epidemics in near future.

1.3 HIV/ AIDS in India

The first case of HIV / AIDS in India was detected in 1986, at Chennai and was a commercial sex worker. Within a period of about 27 years, it has emerged as one of the most serious problems in the country. Though the initial cases of HIV/ AIDS were reported among commercial sex workers in Mumbai and Chennai and injecting drug users in north-eastern States of Manipur, the disease spread rapidly in the areas adjoining these epicenters and by 1997 Maharashtra, Tamil Nadu and Manipur together accounted for over three-fourths of AIDS cases and over two-thirds of HIV infections with Maharashtra reporting almost half the number of cases in the country. HIV infections are now being reported from all States and Union Territories. A shift in the epidemic has been observed from the high-risk population to bridge population (clients of sex workers, STD patients and partners of drug users) and then to the general population. There is a time lag of 2-3 years between the shifts from one group to another. The epidemic continues to shift towards women and towards young people with an accompanying increase in vertical transmission and spurt of Paediatric HIV. Thus, all the States go through a stage of low and then concentrated and finally generalized epidemic in the absence of effective interventions. Focusing on the future of the epidemic is complex. Low levels of infection in large population like India can translate into large number of new infections. Currently, the estimated HIV infection rate among adult population between 15-49 years of age is 0.28%. The burden of AIDS cases is beginning to be felt in the States affected early in the epidemic. The present Indian scenario is showing a steady decline with nearly 20.9 lakh HIV infections at the end of the year 2011. The number of AIDS cases is also likely to decrease in the coming years. Migration of labour, low literacy levels leading to low awareness, gender disparities, poverty, unemployment, patriarchy, cultural and behavioural attitudes, prevalence of sexually transmitted diseases (STD), and reproductive tract infections (RTI) are some of the factors that can be attributed to the spread of HIV / AIDS. Alcoholism, drug abuse, sexual abuse, social and cultural beliefs, superstitions, slow degradation of social ethics and moral values, etc. also largely contributes to the spread.

Based on the available sentinel surveillance data on HIV prevalence in adult population, the States/ Union Territories have been broadly classified in to three groups.

Group I: High Prevalence States which includes Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh and Nagaland where the HIV infection has crossed 1% or more in antenatal women and there was more than 5% prevalence among STD patients.

Group II: Moderate Prevalence States like Gujarat, Goa and Pondicherry where the HIV infection has crossed 5% or more among High Risk Group but the infection is below 1% in antenatal women.

Group III: Highly Vulnerable States which includes Bihar, Himachal Pradesh, Kerala, MP, Punjab, Rajasthan, UP, West Bengal, Chhattisgarh, Jharkhand, Orissa, Uttaranchal and Delhi where there are less than 1% antenatal women and less than 5% STD population. These States have large migratory population and weak health-care infrastructure.

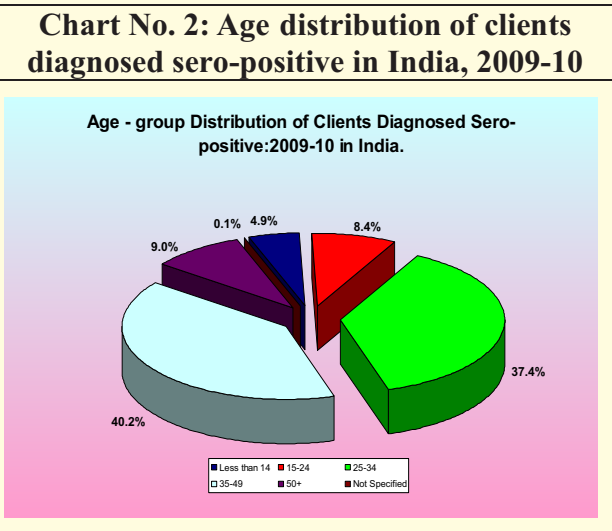
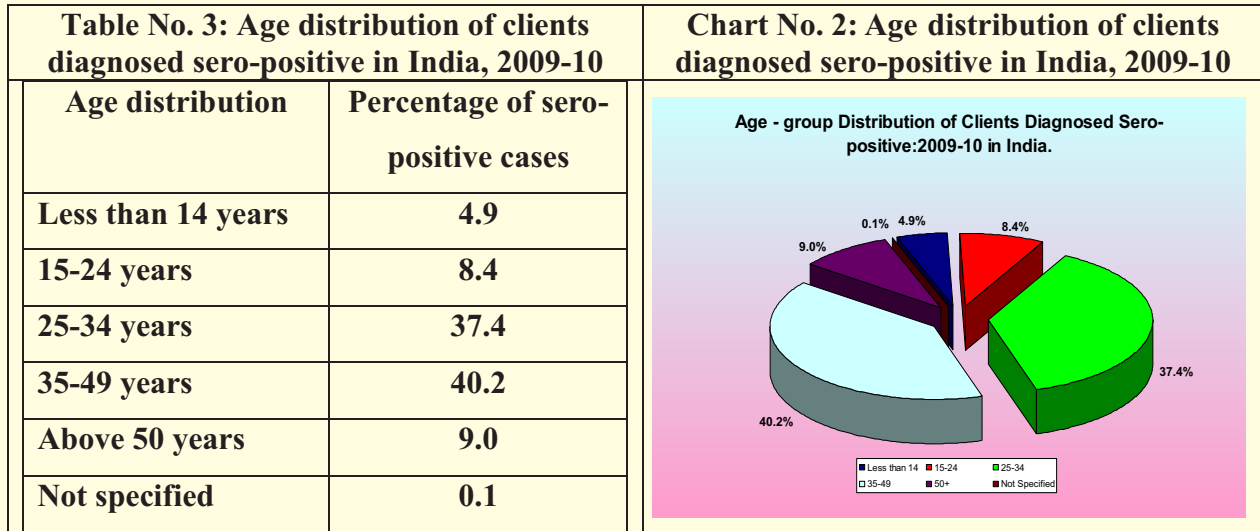
Group IV: Vulnerable States which includes Jammu & Kashmir, Haryana, Mizoram, Meghalaya, Sikkim, Tripura, Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep and Arunachal Pradesh where there are less than 1% antenatal women and less than 5% STD population.

It is estimated that approximately 20.9 lakh people are infected with HIV/AIDS in India at the end of the year 2011; of which, 39% are females and 7% are children. Unprotected sex (88.6%) is the major route of HIV transmission, followed by transmission from parent to child which is 5.4% and use of infected blood and blood products is 1.1%. While injecting drug use is the predominant route of transmission in North Eastern States which accounted for 1.7% of HIV infection nationally.

Table No. 2: Distribution of HIV/AIDS cases by route of transmission		Chart No.1: Probable source of infection among HIV/AIDS cases in India														
Route	Percentage	<p>Route of HIV transmission 2009-10 in India</p> <table border="1"> <thead> <tr> <th>Route</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Hetero_sexual</td> <td>87.1%</td> </tr> <tr> <td>Parent to Child</td> <td>5.4%</td> </tr> <tr> <td>Not Specified</td> <td>3.2%</td> </tr> <tr> <td>Injected Drug Users</td> <td>1.7%</td> </tr> <tr> <td>Blood and Blood Products</td> <td>1.1%</td> </tr> <tr> <td>Homosexual</td> <td>1.5%</td> </tr> </tbody> </table>	Route	Percentage	Hetero_sexual	87.1%	Parent to Child	5.4%	Not Specified	3.2%	Injected Drug Users	1.7%	Blood and Blood Products	1.1%	Homosexual	1.5%
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Sexual	88.6															
Perinatal transmission	5.4															
Blood and Blood products	1.1															
Injectable Drug Users	1.7															
Others (not specified)	3.2															
Total	100.0															

Source: National AIDS Control Organization

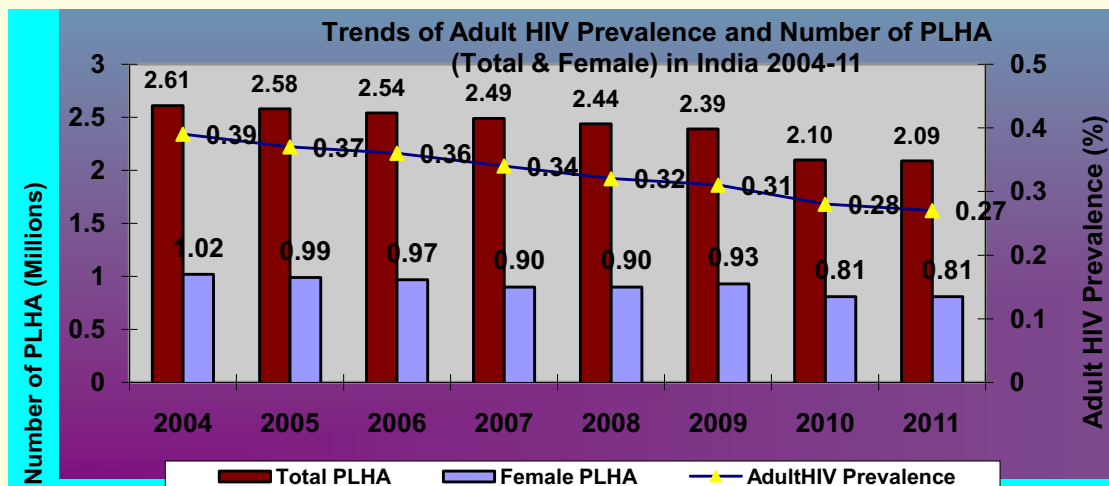
In India, during 2009-10, the sero-positive cases in the age group 35-49 years are very high followed by the age group 25-34 years. The age distribution of clients diagnosed sero-positive for the year 2009-10 in India is given in Table No. 3.



Source: National AIDS Control Organization

The estimated adult HIV prevalence in India has declined from 0.41% in 2001 to 0.27% in 2011. The estimated number of people living with HIV has also declined from 2.73 million to 2.09 million over the same period. However, there is a significant regional variation in the trends of the HIV epidemic. The epidemic has been stabilized in the four high prevalent States of Maharashtra, Tamilnadu, Karnataka and Andhra Pradesh. However, there are trends indicating the rising HIV epidemic in other moderate to low prevalence States. The spread of HIV epidemic is heterogeneous in India in some districts showing higher HIV prevalence than others.

Chart No. 3: Estimates of HIV infection in India, 2004 - 2011



Source: National AIDS Control Organisation

Epidemiological analysis of reported AIDS cases in India reveals that:

- The disease is affecting mainly the people in sexually active and economically productive age group 15 to 49 years of age. Almost 86% of the reported cases belong to this age group.

- The disease is more common in males than females. More than 60% of the reported cases were males. Nearly 5% of the reported cases are children.
- Relatively more females of younger age group are affected by the disease than males.
- The predominant mode of transmission of infection in the AIDS patients is through heterosexual contacts (88.6%) followed by perinatal transmission (5.4%), injecting drug users (1.7%), blood transfusion and blood products (1.1%).
- The estimated adult HIV prevalence in India has declined from 0.41 in 2001 to 0.27 in 2011.
- The observations made in different parts of the country are clear pointer to the fact that the epidemic is spreading not only geographically, but also increasing in different risk groups numerically and further finds its route from these core groups to general population. It is spreading in two ways, from urban to rural areas and from individuals practicing high-risk behaviors to the general population.
- Taking into account the load of HIV/ AIDS infection as observed, India has all valid reasons to be alarmed and there is no denial of the enormity of the problem.

Key results: Technical Report India HIV Estimates-2012

Adult HIV prevalence (15-49 years)

National adult (15-49 years) HIV prevalence is estimated at 0.28% (0.24%-0.34%) in 2010 and 0.27% (0.22%-0.33%) in 2011. Adult HIV prevalence among males and females is estimated at 0.34% and 0.23% in 2010 and 0.32% and 0.22% in 2011 respectively.

In 2011, among the states, Manipur has shown the highest estimated adult HIV prevalence of 1.22%, followed by Andhra Pradesh (0.75%), Mizoram (0.74%), Nagaland (0.73%), Karnataka (0.52%), Goa (0.43%) and Maharashtra (0.42%). Besides these states, Odisha, Gujarat, Tamil Nadu and Chandigarh have shown estimated adult HIV prevalence greater than the national prevalence (0.27%), while Chhattisgarh, Jharkhand, Tripura, West Bengal, Uttarakhand, Delhi and Bihar have shown estimated adult prevalence in the range of 0.20-0.27%. All other states/UTs have levels of Adult HIV prevalence below 0.20%.

The adult HIV prevalence at national level has continued its steady decline from estimated level of 0.41% in 2001 through 0.33% in 2007 to 0.27% in 2011. Similar consistent declines are noted among both men and women at national level. Declining trends in adult HIV

prevalence are sustained in all the high prevalence states (Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland and Tamil Nadu) and other states such as Mizoram and Goa.

HIV prevalence among young population (15-24 years)

HIV prevalence among the young population (15-24 years) at national level is estimated at 0.11% in 2011. Unlike adult (15-49 years) HIV prevalence where HIV prevalence among males is around 1.5 times that among females, in young (15-24 years) population, HIV prevalence is equal among men and women at 0.11%. HIV prevalence among the young population (15-24 years) at national level has declined from 0.15% in 2007 to 0.11% in 2011.

People Living with HIV (PLHIV)

The total number of people living with HIV (PLHIV) in India is estimated at 20.9 lakh (17.2 lakh-25.3 lakh) in 2011, of whom children (<15 years) account for 7% (1.45 lakh) of all infections. Of all HIV infections, 39% (8.16 lakh) are among women. The four high prevalence states of South India (Andhra Pradesh - 4.19 lakh, Maharashtra - 3.16 lakh, Karnataka - 2.09 lakh and Tamil Nadu - 1.33 lakh) account for 53% of all HIV infected population in the country. West Bengal, Gujarat, Bihar, Uttar Pradesh and Odisha are estimated to have more than 1 lakh PLHIV each and together account for another 29% of HIV infection in India. The states of Rajasthan, Jharkhand, Chhattisgarh, Madhya Pradesh, Punjab, Manipur, Delhi and Kerala have estimated HIV infections between 25,000 and 75,000 each and together account for another 15% of HIV infections in the country. The estimated number of people living with HIV in India maintains a steady declining trend from 23.2 lakh in 2006 to 20.9 lakh in 2011.

Annual new infections

India is estimated to have around 1.16 lakh (0.72-1.99 lakh) annual new HIV infections among adults (15+ years) and around 14,500 (10,974-19,346) new HIV infections among children (<15 years) in 2011. Among states, Andhra Pradesh is estimated to have the highest number (16,603) of new adult HIV infections in 2011 followed by Odisha (12,703), Jharkhand (9,085), Karnataka (9,024), Bihar (7,797), Uttar Pradesh (7,745) and West Bengal (7,289). While the states of Gujarat, Maharashtra, Chhattisgarh, Rajasthan, Punjab and Uttarakhand have new adult HIV infections between 3,000 and 7,000, rest of the states have less than 3,000 new adult HIV infections in 2011.

Of the 1.16 lakh estimated new infections in 2011 among adults, the six high prevalence states account for only 31%, while the ten low prevalence states of Odisha, Jharkhand, Bihar,

Uttar Pradesh, West Bengal, Gujarat, Chhatisgarh, Rajasthan, Punjab & Uttarakhand together account for 57% of new infections.

India has demonstrated an overall reduction of 57% in estimated annual new HIV infections (among adult population) during the last decade from 2.74 lakh in 2000 to 1.16 lakh in 2011. This is one of the most important evidence on the impact of the various interventions under National AIDS Control Programme and scaled-up prevention strategies. Major contribution to this reduction comes from the high prevalence states where a reduction of 76% has been noted during the same period. During the period of NACP III, the new infections among adult have decreased by 28% in high prevalence states between 2007 & 2011. However, rising trends of new infections are noted in the states of Assam, Arunachal Pradesh, Chandigarh, Chhattisgarh, Delhi, Jharkhand, Meghalaya, Odisha, Punjab, Tripura and Uttarakhand. This underscores the need for the programme to focus more on these states with low prevalence, but high vulnerability.

AIDS - Related deaths

Using globally accepted methodologies and updated evidence on survival to HIV with and without treatment, it is estimated that about 1.48 lakh (1.14 lakh - 1.78 lakh) people died of AIDS related causes in 2011 in India. Deaths among HIV infected children account for 7% of all AIDS-related deaths.

Wider access to ART has led to 29% reduction in estimated annual AIDS-related deaths in the country during NACP III period (2007-2011). In high prevalence states, estimated AIDS-related deaths have decreased by around 42% during 2007 to 2011.

Lives saved due to ART

It is estimated that the scale up of free ART since 2004 has saved cumulatively over 1.5 lakh lives in the country till 2011 by averting deaths due to AIDS-related causes. With the current scale up of ART services, it is estimated to avert around 50,000 - 60,000 deaths annually in the next five years.

Estimated Programme needs for ART and PPTCT

Based on the assumptions on progression and survival of adults and children infected with HIV, it is estimated that around 8.6 lakh PLHIV needed Anti Retroviral Treatment (ART) in 2011. This includes 7.9 lakh adults (15+ years) and 75 thousand children (<15 years). The four southern high prevalence states account for 58% of country's ART needs. With revision in

the national guidelines on eligibility for ART to CD4 count of 350 from 2012. It is estimated that around 11 lakh PLHIV would need ART by the end of 2012. With the strategies for further scale up and expansion of reach through ART and Link ART centres during NACP IV, India is firmly positioned to reach the targets of universal coverage by 2017.

Based on the estimated HIV infections among adult females and assumptions on effect of HIV on fertility and mother to child transmission rates, it is estimated that around 38 thousand HIV positive pregnant women needed Prevention of Parent to Child Transmission (PPTCT) services in 2011. The overall number of pregnant women needing PPTCT has declined in the country from 51 thousand in 2007 to 38 thousand in 2011. The states of Andhra Pradesh, Bihar, Maharashtra, Uttar Pradesh, Gujarat, Karnataka, Odisha and Tamil Nadu account for 71% of all PPTCT needs in the country.

Conclusion

India's HIV epidemic is dynamic and heterogeneous. With the increased amount of strategic information made available on the epidemic through HIV Sentinel Surveillance and HIV estimations in additions to other data, there is greater understanding on the levels and trends of infection in specific areas and amongst specific population groups. Appropriate programme response based on this evidence is required for successful control of HIV epidemic in the country. Further analysis has to be undertaken to understand the epidemic at district and regional level within states, so that programme interventions can be tailored according to the local epidemic context.

1.4 Situation in Goa

HIV/ AIDS epidemic in Goa is nearly 26 years old. Since the first reported case of HIV in Goa in 1987, there has been a steady rise in the reported number of HIV/ AIDS cases. During the period from 1987 to 2013, as many as 15,205 HIV+ cases have been detected at the Integrated Counseling and Testing Centres (ICTCs). Prior to 1992, very few HIV+ cases ranging between 3 to 30 per year were detected but since 1992, the cases have been steadily rising and since the year 2000 more than 800 cases were detected each year. During the year 2013, out of 57,180 (including 16,353 ANC) blood samples tested 532 cases (including 27 ANC) were sero- positive. The number of blood samples screened, sero-positive cases detected and reported number of AIDS cases sex-wise during the period from 1986 to 2013 are presented in Table No. 4. In Goa, all most all HIV+ cases have been detected and for the past five years it is found that the HIV+ cases detected are on the decline.

Table No. 4: Total number of blood samples tested for HIV/AIDS, 1986 - 2013

Year	Number of blood samples tested			HIV+ cases			Positivity Rate (%)	Number of AIDS cases		
	Gen	ANC	Total	Gen	ANC	Total		M	F	T
1986	229	-	229	-	-	-	-	-	-	-
1987	1,255	-	1,255	3	-	3	0.24	-	-	-
1988	3,822	-	3,822	6	-	6	0.16	-	-	-
1989	10,210	-	10,210	18	-	18	0.18	1	-	1
1990	10,071	-	10,071	18	-	18	0.18	1	-	1
1991	8,603	-	8,603	30	-	30	0.35	2	-	2
1992	8,690	-	8,690	144	-	144	1.66	3	1	4
1993	7,978	-	7,978	123	-	123	1.54	3	-	3
1994	4,533	-	4,533	195	-	195	4.30	3	1	4
1995	2,279	-	2,279	203	-	203	8.91	4	2	6
1996	2,959	-	2,959	327	-	327	11.05	11	3	14
1997	3,526	-	3,526	473	-	473	13.41	12	2	14
1998	4,903	-	4,903	522	-	522	10.65	11	4	15
1999	7,804	-	7,804	750	-	750	9.61	12	2	14
2000	7,813	-	7,813	807	-	807	10.33	11	2	13
2001	7,216	-	7,216	801	-	801	11.10	39	9	48
2002	13,848	-	13,848	999	-	999	7.21	51	17	68
2003	11,682	2,567	14,249	1,016	38	1,054	7.40	105	57	162
2004	11,221	3,717	14,938	956	47	1,003	6.71	139	54	193
2005	11,814	3,068	14,882	1,029	41	1,070	7.19	119	61	180
2006	11,023	7,357	18,380	940	75	1,015	5.52	58	23	81
2007	12,485	10,432	22,917	1,029	65	1,094	4.77	79	38	117
2008	15,684	11,053	26,737	954*	65	1,019	3.81	74	31	105
2009	21,220	12,253	33,473	901	58	959	2.86	120	64	184
2010	21,627	11,802	33,429	769*	52	821	2.46	102	52	154
2011	25,532	14,609	40,141	630*	35	665	1.66	68	38	106
2012	30,500	14,053	44,553	532*	22	554	1.24	52	26	78
2013	40,827	16,353	57,180#	505	27	532	0.93	34	17	51
Total	3,19,354	1,07,264	4,26,618	14,680	525	15,205	3.56	1,114	504	1,618

Gen = General, ANC =Antenatal Clinic

*Includes 1 TS/TG case each reported for the year 2008, 2010 and 2 cases each in 2011, 2012.

includes tests conducted in FICTCs

Chart No.4: Trend in number of HIV+ cases detected in Goa, 1986 - 2013

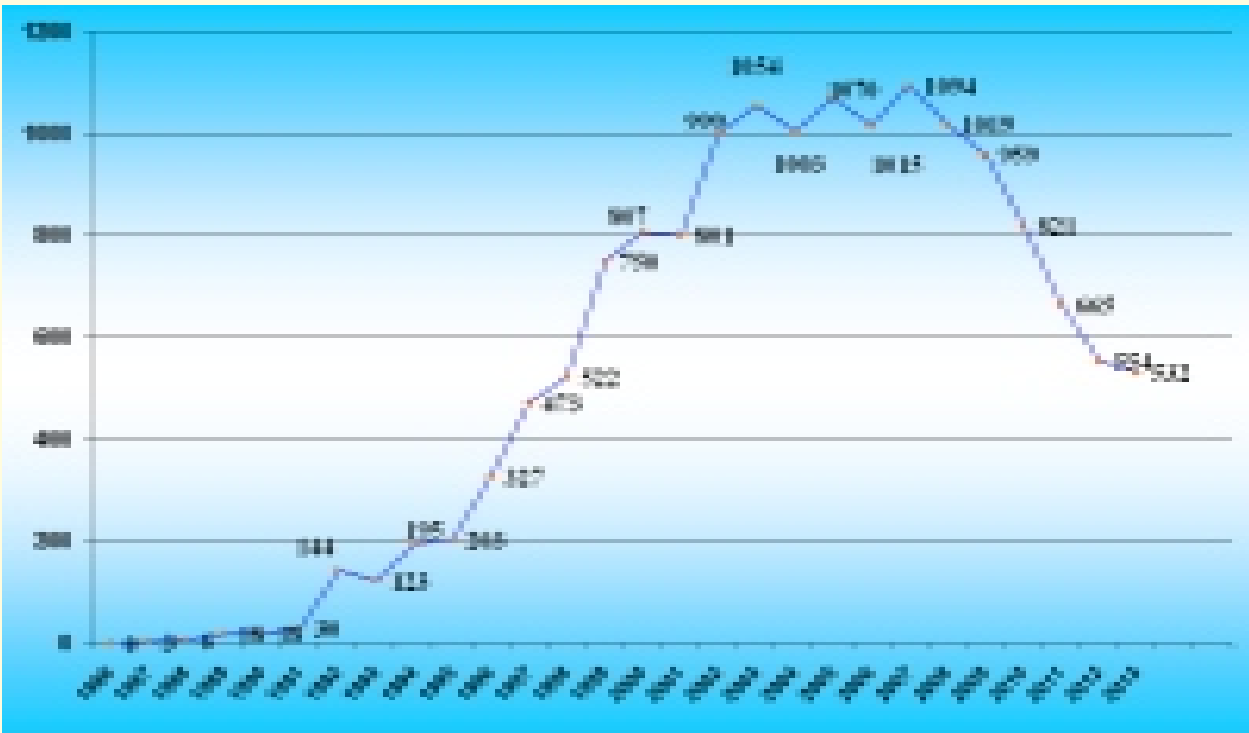
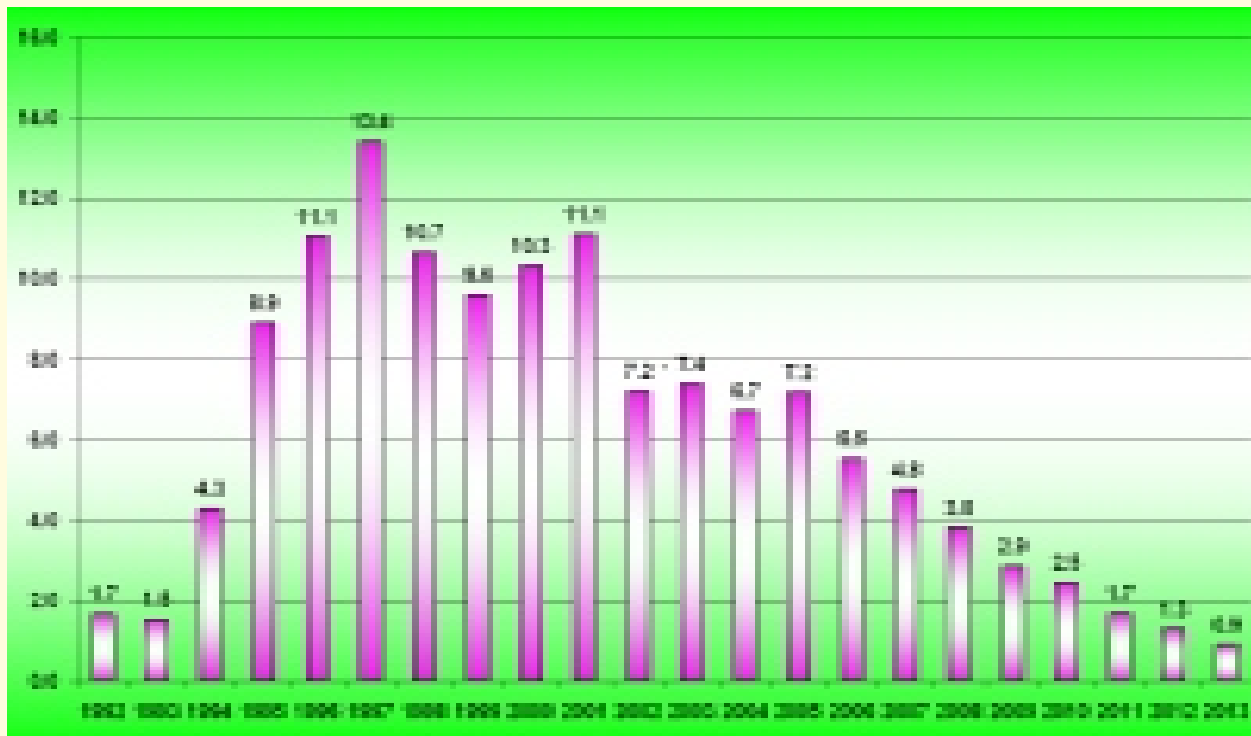


Chart. No. 5: HIV positivity rate in Goa, 1992 - 2013



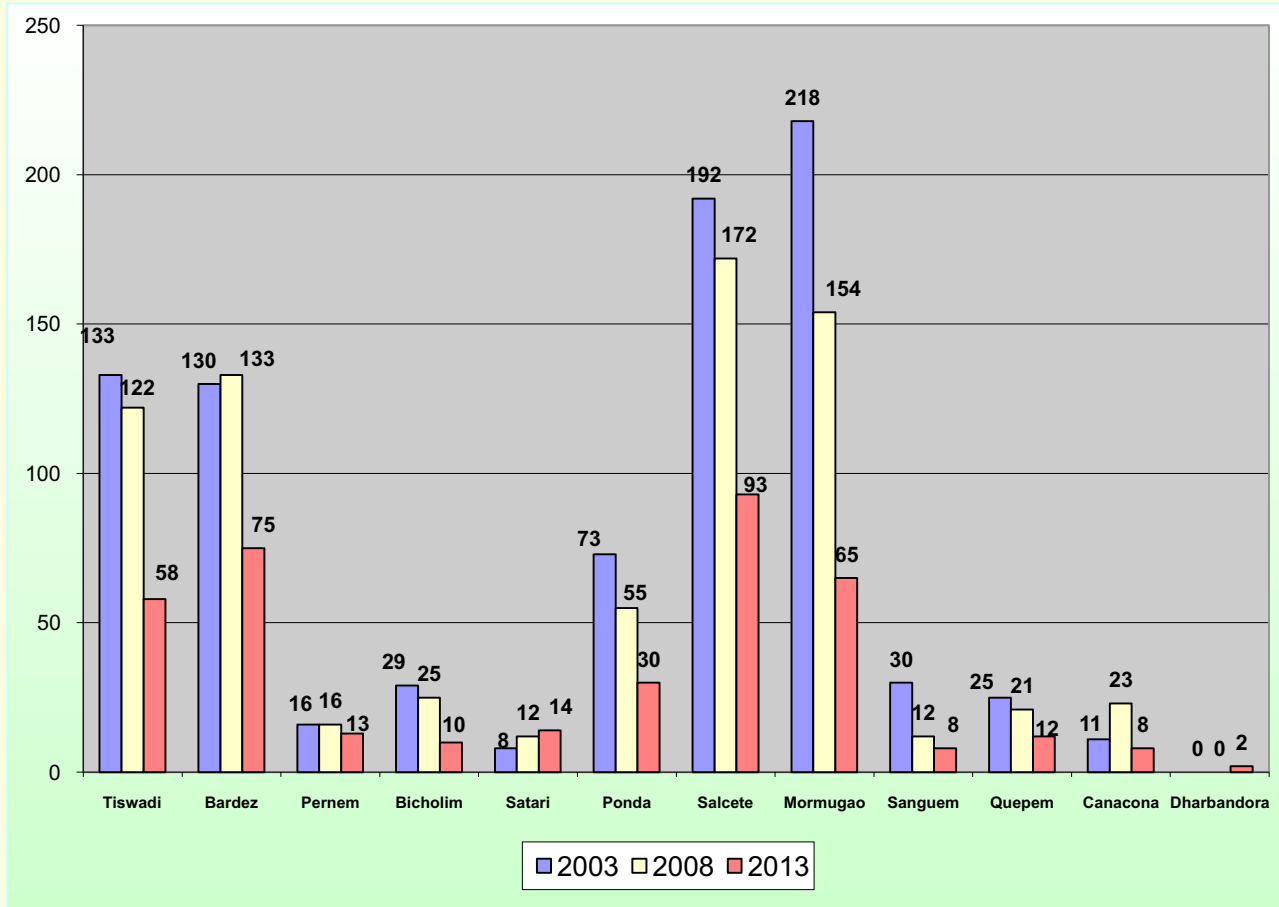
The taluka-wise distribution of the HIV+ cases in the general population (refer Table No.5) shows that the majority of the cases detected are from the four coastal talukas namely Mormugao, Bardez, Salcete and Tiswadi. About three-fourth of the cases are reported from these four talukas. Incidentally, these four talukas are relatively well developed both economically and socially compared to the other talukas. Till the year 2003, Mormugao taluka accounted for the highest number of HIV+ cases. Due to the demolition of the red light area at Baina located in Mormugao taluka, in June 2004, these HIV+ cases were scattered to other talukas. Since 2004-2009, Salcete taluka is ahead of all the talukas except in 2006 but from 2010 to 2012 Mormugao is topping the list. In 2013, Salcete taluka reported maximum number of HIV+ cases and in Tiswadi taluka the number of HIV+ cases reported were also on the rise. From 2011, most of the talukas showed a down ward trend in detection of new HIV+ cases. The taluka-wise distribution of HIV+ cases is presented in Table No.5.

Table No. 5: Taluka-wise distribution of HIV+ cases detected in Goa, 1998 - 2013

Taluka	Number of HIV+ cases detected															
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Tiswadi	100	93	127	115	147	133	166	161	111	113	122	104	68	59	41	58
Bardez	60	77	112	116	111	130	150	127	133	149	133	140	117	92	86	75
Pernem	10	15	10	23	22	16	20	12	33	24	16	14	10	11	7	13
Bicholim	15	20	22	18	32	29	26	29	35	35	25	30	17	18	18	10
Satari	8	4	3	5	11	8	7	17	9	12	12	19	16	15	17	14
Ponda	34	29	39	48	39	73	48	62	55	48	55	41	34	26	30	30
Salcete	98	131	149	173	191	192	195	198	175	183	172	154	106	86	59	93
Mormugao	104	135	156	184	263	218	182	192	183	148	154	149	153	114	88	65
Sanguem	3	9	11	18	19	30	12	36	15	26	12	30	23	16	14	8
Quepem	12	13	22	25	30	25	23	23	14	39	21	22	23	19	10	12
Canacona	2	6	6	9	17	11	17	20	22	29	23	11	27	4	15	8
Dharbandora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Others #	76	218	150	67	117	151	110	152	155	223	209	187	175	170	147	117
Total	522	750	807	801	999	1016	956	1029	940	1029	954	901	769	630	532	505

includes those belonging to other States, foreigners as also those not specified.

Chart No. 6: Taluka-wise distribution of HIV+ cases detected in Goa, 2003, 2008 & 2013



About 31.3% of the HIV+ cases detected in Goa during 2013 are from the talukas of Mormugao and Salcete in South Goa District and about 26.3% are from Bardez and Tiswadi talukas in North Goa District. 57.6% of new detected cases were shared by these four talukas and only 19.2% of cases were from remaining talukas of Goa. 23.2% of the cases detected were from other States of India.

Chart No.7: Taluka-wise proportion (%) of HIV+ cases detected in Goa, 2013

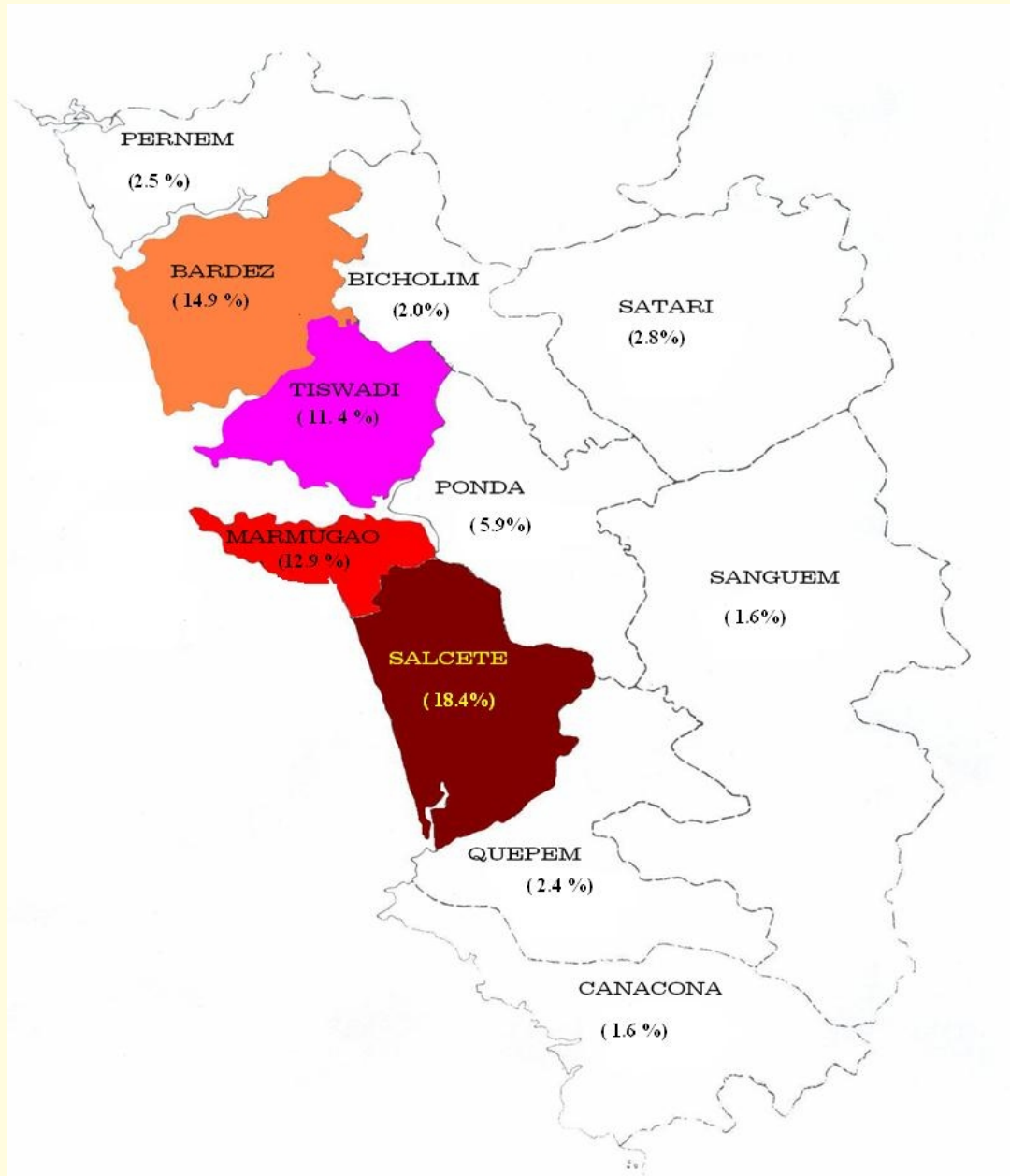


Table No.6: Age / Sex-wise distribution of HIV+ cases detected in General population in Goa, 2000 - 2007

Age group	2000				2001				2002				2003				2004				2005				2006				2007							
	M		F		M		F		M		F		M		F		M		F		M		F		M		F		M		F		M		F	
0-14	17 (3.0)	16 (6.5)	33 (4.1)	15 (5.7)	45 (5.6)	32 (4.9)	27 (4.2)	10 (2.9)	42 (4.2)	46 (4.5)	19 (5.1)	27 (4.2)	37 (5.8)	63 (6.6)	25 (7.5)	38 (6.1)	25 (7.5)	63 (6.6)	37 (5.8)	29 (7.3)	66 (6.4)	32 (5.4)	24 (7.0)	56 (6.0)	39 (5.9)	25 (6.8)	64 (6.2)	39 (5.9)	25 (6.8)	64 (6.2)	39 (5.9)	25 (6.8)	64 (6.2)			
15-29	154 (27.6)	123 (49.6)	277 (34.3)	123 (46.8)	266 (33.2)	176 (27.0)	148 (22.9)	181 (52.2)	357 (35.7)	335 (33.0)	187 (50.6)	148 (22.9)	357 (35.7)	335 (33.0)	124 (37.2)	130 (20.9)	124 (37.2)	254 (26.6)	120 (18.9)	133 (33.7)	253 (24.6)	93 (15.6)	118 (34.2)	211 (22.4)	119 (18.0)	119 (32.4)	238 (23.1)	119 (32.4)	119 (32.4)	238 (23.1)	119 (32.4)	119 (32.4)	238 (23.1)			
30-49*	298 (53.3)	97 (39.1)	395 (49.0)	279 (35.4)	372 (46.4)	394 (60.4)	387 (59.9)	140 (40.3)	534 (53.5)	534 (52.6)	147 (39.7)	387 (59.9)	534 (53.5)	534 (52.6)	157 (47.1)	384 (61.6)	157 (47.1)	541 (56.5)	425 (67.1)	208 (52.7)	633 (61.5)	408 (68.6)	184 (53.3)	592 (63.0)	424 (64.0)	196 (53.4)	620 (60.3)	424 (64.0)	196 (53.4)	620 (60.3)	424 (64.0)	196 (53.4)	620 (60.3)			
49+*	83 (14.8)	11 (4.4)	94 (11.6)	82 (15.2)	111 (13.9)	39 (6.0)	16 (4.6)	55 (5.5)	74 (7.3)	74 (7.3)	14 (3.8)	60 (9.3)	74 (7.3)	85 (8.9)	24 (7.3)	61 (9.8)	24 (7.3)	85 (8.9)	52 (8.2)	25 (6.3)	77 (7.5)	62 (10.4)	19 (5.5)	81 (8.6)	80 (12.1)	27 (7.4)	107 (10.4)	80 (12.1)	27 (7.4)	107 (10.4)	80 (12.1)	27 (7.4)	107 (10.4)			
Not specified	7 (1.3)	1 (0.4)	8 (1.0)	4 (0.7)	7 (0.9)	11 (1.7)	0 (0.0)	11 (3.7)	27 (2.6)	27 (2.6)	3 (0.8)	24 (3.7)	10 (1.1)	13 (1.4)	3 (0.9)	10 (1.6)	3 (0.9)	13 (1.4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total	559 (100.0)	248 (100.0)	807 (100.0)	538 (100.0)	801 (100.0)	652 (100.0)	347 (100.0)	999 (100.0)	1016 (100.0)	1016 (100.0)	370 (100.0)	646 (100.0)	999 (100.0)	956 (100.0)	333 (100.0)	623 (100.0)	333 (100.0)	956 (100.0)	634 (100.0)	395 (100.0)	1029 (100.0)	595 (100.0)	345 (100.0)	940 (100.0)	662 (100.0)	367 (100.0)	1029 (100.0)	662 (100.0)	367 (100.0)	1029 (100.0)	662 (100.0)	367 (100.0)	1029 (100.0)			

Table No. 6: Age / Sex-wise distribution of HIV+ cases detected in General population in Goa, 2008 - 2013

Age group	2008				2009				2010				2011				2012				2013												
	M		F		M		F		M		F		M		F		M		F		M		F		M		F		M		F		
<14	40 (6.9)	29 (7.8)	69 (7.2)	20 (3.7)	20 (5.4)	40 (4.4)	24 (4.8)	20 (7.4)	44 (5.7)	44 (5.7)	0 (0.0)	20 (7.4)	17 (6.7)	24 (6.4)	17 (6.7)	41 (6.5)	14 (4.2)	16 (8.3)	16 (8.3)	0 (0.0)	30 (5.6)	8 (2.6)	10 (5.1)	18 (3.6)	30 (5.6)	8 (2.6)	10 (5.1)	18 (3.6)	30 (5.6)	8 (2.6)	10 (5.1)	18 (3.6)	
15-24	26 (4.5)	36 (9.7)	62 (6.5)	27 (5.1)	31 (8.5)	58 (6.4)	28 (5.6)	19 (7.1)	47 (6.1)	47 (6.1)	0 (0.0)	19 (7.1)	20 (7.9)	30 (8.0)	20 (7.9)	51 (8.1)	22 (6.5)	13 (6.7)	13 (6.7)	1 (50.0)	36 (6.7)	26 (8.5)	9 (4.6)	35 (6.9)	36 (6.7)	26 (8.5)	9 (4.6)	35 (6.9)	26 (8.5)	9 (4.6)	35 (6.9)		
25-34	197 (33.8)	156 (42.1)	354 (37.1)	171 (32.0)	137 (37.3)	308 (34.2)	136 (27.3)	100 (37.2)	237 (30.8)	237 (30.8)	1 (100.0)	100 (37.2)	80 (31.6)	105 (28.0)	80 (31.6)	186 (29.5)	85 (25.3)	60 (30.9)	60 (30.9)	0 (0.0)	145 (27.3)	68 (22.1)	65 (33.0)	133 (26.4)	145 (27.3)	68 (22.1)	65 (33.0)	133 (26.4)	68 (22.1)	65 (33.0)	133 (26.4)		
35-49	262 (45.0)	124 (33.4)	386 (40.5)	270 (50.6)	149 (40.6)	419 (46.5)	263 (52.7)	104 (38.7)	333 (47.8)	333 (47.8)	0 (0.0)	104 (38.7)	105 (41.5)	177 (47.1)	105 (41.5)	282 (44.8)	168 (50.0)	82 (42.3)	82 (42.3)	0 (0.0)	251 (47.2)	152 (49.3)	83 (42.1)	235 (46.5)	251 (47.2)	152 (49.3)	83 (42.1)	235 (46.5)	152 (49.3)	83 (42.1)	235 (46.5)		
>50	57 (9.8)	26 (7.0)	83 (8.7)	46 (8.6)	30 (8.2)	76 (8.5)	48 (9.6)	26 (9.6)	74 (9.6)	74 (9.6)	0 (0.0)	26 (9.6)	30 (11.9)	39 (10.4)	30 (11.9)	69 (10.9)	47 (14.0)	23 (11.8)	23 (11.8)	0 (0.0)	70 (13.2)	54 (17.5)	30 (15.2)	84 (16.6)	70 (13.2)	54 (17.5)	30 (15.2)	84 (16.6)	54 (17.5)	30 (15.2)	84 (16.6)		
Not specified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 (0.2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	582 (100.0)	371 (100.0)	954 (100.0)	534 (100.0)	367 (100.0)	901 (100.0)	499 (100.0)	269 (100.0)	769 (100.0)	769 (100.0)	1 (100.0)	269 (100.0)	253 (100.0)	375 (100.0)	253 (100.0)	630 (100.0)	336 (100.0)	194 (100.0)	194 (100.0)	2 (100.0)	532 (100.0)	308 (100.0)	197 (100.0)	505 (100.0)	532 (100.0)	308 (100.0)	197 (100.0)	505 (100.0)	308 (100.0)	197 (100.0)	505 (100.0)		

Note: Figures within brackets indicate percentage to total

Chart No.8: Proportion of HIV+ cases detected in different age groups by sex, 2013

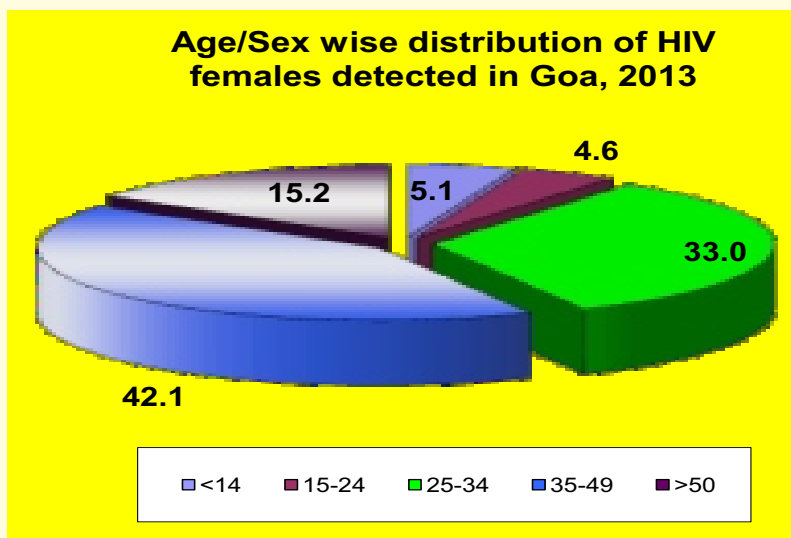
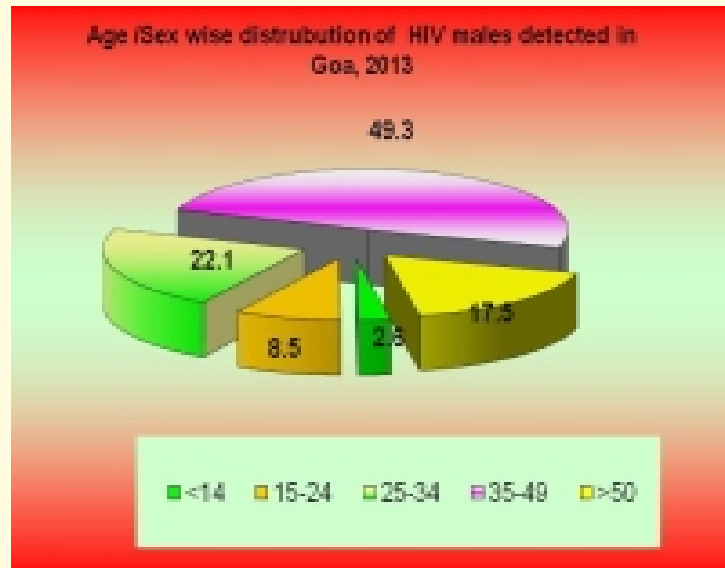


Table No. 7: Proportion (%) of HIV+ cases by sex in different age groups, 2000 - 2007

Age group	2000		2001		2002		2003		2004		2005		2006		2007			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T	
0-14	51.5	48.5	100.0	100.0	76.2	23.8	100.0	100.0	60.3	39.7	100.0	56.1	43.9	100.0	57.1	42.9	100.0	100.0
15-29	55.6	44.4	100.0	100.0	49.3	50.7	100.0	100.0	51.2	48.8	100.0	47.4	52.6	100.0	44.0	56.0	100.0	100.0
30-49	75.4	24.6	100.0	100.0	73.8	26.2	100.0	100.0	71.0	29.0	100.0	75.0	25.0	100.0	69.0	31.0	100.0	100.0
49+	88.3	21.7	100.0	100.0	70.9	29.1	100.0	100.0	71.8	28.2	100.0	67.5	22.5	100.0	76.5	23.5	100.0	100.0
Not specified	87.5	22.5	100.0	100.0	100.0	0.0	100.0	100.0	76.9	23.1	100.0	-	-	-	-	-	-	-
Total	69.3	30.7	100.0	100.0	65.3	34.7	100.0	100.0	65.2	34.8	100.0	61.6	38.4	100.0	63.3	36.7	100.0	100.0

Table No. 7: Proportion (%) of HIV+ cases by sex in different age groups, 2008 - 2013

Age group	2008		2009		2010		2011		2012		2013									
	M	F	M	F	M	F	M	F	M	F	M	F	TS/TG	T	TS/TG	T				
<14	58.0	42.0	0.0	100.0	50.0	50.0	100.0	100.0	58.5	41.5	0.0	100.0	46.7	53.3	0.0	100.0	44.4	55.6	0	100.0
15-24	42.0	58.0	0.0	100.0	46.6	53.4	100.0	100.0	58.8	39.2	2.0	100.0	61.1	36.1	2.8	100.0	74.3	25.7	0	100.0
25-34	55.7	44.0	0.3	100.0	55.5	44.5	100.0	100.0	57.4	42.2	0.4	100.0	58.6	43.4	0.0	100.0	51.1	48.9	0	100.0
35-49	67.9	32.1	0.0	100.0	64.4	35.6	100.0	100.0	71.7	28.3	0.0	100.0	66.9	32.7	0.4	100.0	64.7	35.3	0	100.0
>50	68.7	31.3	0.0	100.0	66.5	39.5	100.0	100.0	64.9	35.1	0.0	100.0	67.1	32.9	0.0	100.0	64.3	35.7	0	100.0
Not specified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	61.0	38.9	0.1	100.0	59.3	40.7	100.0	100.0	59.5	40.1	0.4	100.0	63.2	36.5	0.3	100.0	61.0	39.0	0	100.0

Epidemiological analysis of the reported HIV cases reveals that:

- The disease is prevalent in all parts of Goa and the majority of the cases are reported in the four coastal talukas viz. Mormugao & Salcete in South Goa District and Bardez and Tiswadi in North Goa District.
- One out of three cases detected belonged to age group 15-29 years during 1999 to 2003. However, during 2004 to 2007 it is observed that one out of four cases detected belonged to this age group. From 2008 onwards, the age cohort has been changed by NACO. It is observed that since, 2012 onwards, one out of three detected cases belonged to the age group 15-34 years.
- During 2013, as much as 79.8% of detected cases belonged to 15-49 age group.
- This disease is prevalent more among males than females. Of late, out of every three cases detected two are males. Whereas, in 1997 out of four cases detected three were males.
- More males were found infected than females in the age group 15-34 during 2013. Females of younger age group are infected almost equally with their male counterparts. While nearly 37.5% of the females infected belong to the age of 15-34 years during 2013 as compared to about 32.9% infected males who belonged to this age group in 2009. In 2003, almost half of the infected females belonged to the age group 15-29 years.
- While the proportion of females among the sero-positive cases ranged between 10.1 to 12.3% during the years 1995 to 1998, 30.7 to 42.8% during 1999 to 2008 and declined from 2009 onwards and recorded 35%, 40% and 36% in 2010, 2011 and 2012 respectively. During the year 2013, proportion of females among the sero-positive case was 42.1%. The corresponding figures for the years prior to 1995 are not strictly comparable because certain high-risk groups like sex workers were targeted during these years. The above data thus reveals that HIV infection in women is on the rise and presently out of every three cases detected one is a female compared to one in eight or ten a few years back.
- Sexual route is the predominant mode of transmission and it ranged between 83 to 95% followed by mother-to-child transmission 4 to 8% (refer Table No. 10). Infection through blood and blood products and infected syringes/ needles is negligible in Goa.

Table No.8: Proportion of females to total HIV+ cases detected in Goa, 1987 - 2013

Year	Proportion of females to total HIV+ cases detected (%)
1987	0.0
1988	16.7
1989	27.8
1990	33.3
1991	46.7
1992	63.2
1993	56.1
1994	29.2
1995	12.3
1996	10.1
1997	11.2
1998	12.1
1999	34.4
2000	30.7
2001	32.8
2002	34.7
2003	38.7
2004	37.9
2005	40.7
2006	41.4
2007	39.5
2008	42.8
2009	40.7
2010	39.0
2011	43.3
2012	38.9
2013	42.1

Chart No. 9: Proportion of females to total HIV+ cases detected in Goa, 1987 - 2013

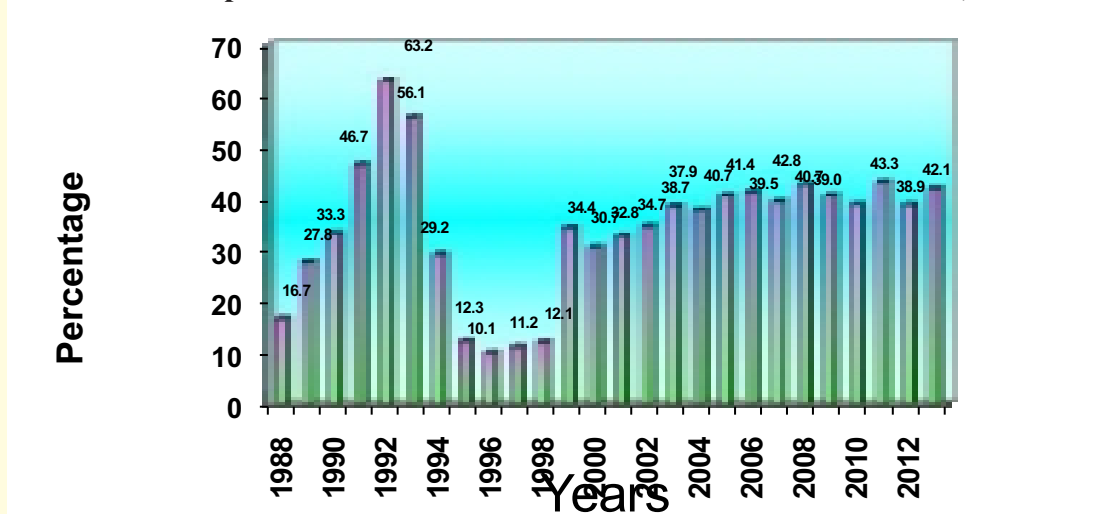


Table No. 9: Route of transmission of sero-positive cases detected in Goa, 2000 - 2013

Route of transmission	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Sexual	731 (90.6)	666 (83.2)	903 (90.4)	968 (95.3)	894 (93.5)	952 (92.5)	868 (92.3)	966 (93.9)	882 (92.4)	856 (95.1)	711 (92.5)	587 (93.2)	498 (93.6)	478 (94.7)
Infected syringes and needles	-	-	6 (0.6)	-	4 (0.4)	7 (0.7)	5 (0.5)	-	-	3 (0.3)	5 (0.7)	1 (0.2)	0 (0.0)	2 (0.3)
Blood & blood Products	1 (0.1)	-	3 (0.3)	-	3 (0.3)	5 (0.5)	1 (0.1)	2 (0.2)	-	2 (0.2)	3 (0.3)	0 (0)	0 (0.0)	0 (0.0)
Parent to child	33 (4.1)	45 (5.6)	41 (4.1)	47 (4.6)	55 (5.8)	65 (6.3)	54 (5.8)	58 (5.6)	72 (7.6)	37 (4.1)	44 (5.7)	39 (6.2)	30 (5.6)	19 (3.8)
Others / not specified	42 (5.2)	90 (11.2)	46 (4.6)	1 (0.1)	-	-	12 (1.3)	3 (0.3)	-	3 (0.3)	6 (0.8)	3 (0.4)	4 (0.8)	6 (1.2)
Total	807 (100.0)	801 (100.0)	999 (100.0)	1016 (100.0)	956 (100.0)	1029 (100.0)	940 (100.0)	1029 (100.0)	954 (100.0)	901 (100.0)	769 (100.0)	630 (100.0)	532 (100.0)	505 (100.0)

Note: Figures within brackets indicate percentage to total

Chart 10: Route of transmission of Sero-positive cases detected in Goa, 2013

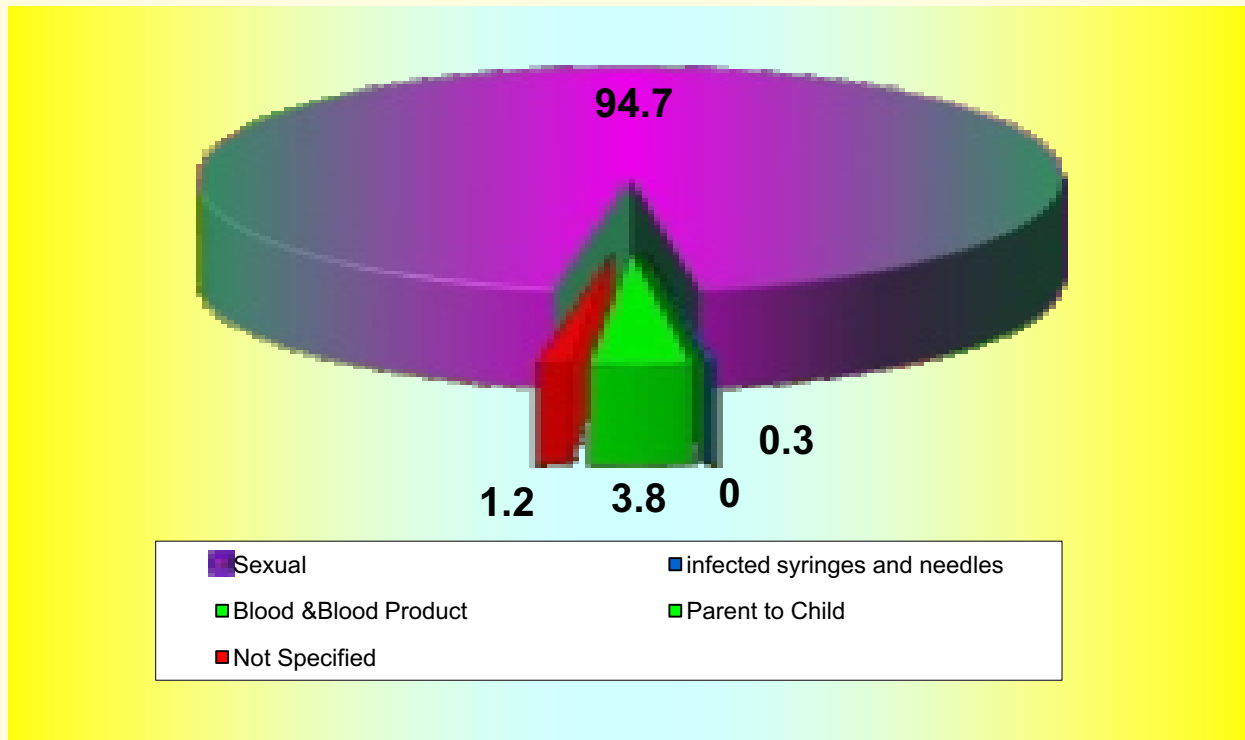


Table No. 10: Sentinel surveillance for HIV infection in Goa

Year	No. of sentinel sites	HIV prevalence (%)
2012	ANC-3	0.25
2010	ANC-3	0.33
	MSM-1	4.53
	FSW-1	2.70
2008	STD-2	4.80
	ANC-3	0.67
	MSM-1	6.40
	FSW-1	6.40
2007	STD-2	5.60
	ANC-2	0.18
	MSM-1	7.93
2006	STD-2	8.60
	ANC-2	0.50
	MSM-1	4.80
2005	STD-2	14.01
	ANC-2	0.00
	MSM-1	4.90
2004	STD-2	16.02
	ANC-2	1.13
	MSM-1	1.68
2003	SW-1	30.14
	STD-2	14.7
	ANC-4	0.34
	MSM-1	9.1
2002	SW-1	24.00
	STD-2	13.15
	ANC-2	1.38
2001	SW -1	50.79
	STD -2	14.23
	ANC -2	0.50
2000	SW -1	53.20
	STD -2	12.02
	ANC -2	1.17
1999	STD -2	13.47
	ANC -2	0.75
1998	STD -2	19.61
	ANC -2	1.25
1997	STD -1	15.79
	ANC -2	0.67
	TB - 1	10.17
1996	STD -1	20.27
	ANC -1	0.68
1995	STD -1	21.65
1994	STD -1	12.64
1993	ANC -1	0.00

In Goa, Annual Sentinel Surveillance to monitor the trends of HIV infection among high-risk groups as well as low-risk groups is being conducted regularly since 1993. Sentinel Surveillance methodology has been standardized by NACO and as such earlier data is not strictly comparable. In Round 2008, there were seven sentinel sites – STD (2), ANC (3), MSM (1) and FSW (1). During the period 2000 to 2003, there was a sentinel site for FSWs. With the demolition of the red light area at Baina in Mormugao taluka, this site has been discontinued since 2004. However, a new FSW site was identified during 2008 covering Mormugao and Salcete talukas. In 2010, there were five sentinel sites – MSM (1), ANC (3) and FSW (1). The available data presents a varied picture.

- Sero-positivity in STD patients was around 20% during 1995, 1996 and 1998 and in other years it has varied between 12 to 16%. In 2007 and 2008 it has varied between 5.60 to 4.80%. There was no STD site during 2010 HSS Survey.
- In the red light area of Baina the prevalence among sex workers was more than 50% during 2000 and 2001, and in 2002 it was 24% and 30% in 2003. During June 2004, the red light area was demolished and the site has since been discontinued.
- During 2008, a new site of FSW was identified and the prevalence rate was 6.40 %.
- Rate among antenatal mothers varied from 0.0 to 1.38% and the available trend presents a zig-zag picture. During 2005 to 2010, the rate among antenatal mothers was 0%, 0.5%, 0.18%, 0.67% and 0.33% respectively. During 2012, prevalence rate among antenatal mothers was 0.25%
- Based on the available data, Goa has been classified as a moderate prevalent State and the South Goa District as one of the 49 high prevalent districts in India.

Table No. 11 presents the proportion of direct walk-in clients to total persons tested at ICTCs during the period 1999 to 2013. As can be seen from this table, the proportion of walk-in clients at the ICTCs ranged between 2.5 to 7.0 per cent during the years 1999 to 2001. The corresponding figure for the year 2002 was to the tune of 42.3%. This steep rise was mainly due to the initiatives taken up for an intensive voluntary test drive during the AIDS Fortnight 1st to 14th December 2002. During the year 2008, the proportion of walk-in clients was 20.8% and in 2009 and 2010, it was about 30%. The HIV prevalence rate amongst walk-in clients ranged between 3.9 to 16.4% during the years 1999 to 2007 and during 2008 to 2013, HIV prevalence declined from 15.6% in 2007 to 1.2% in 2013, whereas the number of persons tested has increased from 12,485 to 38,482 for the same period.

Table No. 11: Proportion of direct walk-in to total persons tested at ICTCs, 1999 - 2013

Year	No. of persons tested for HIV	No. of direct walk-in persons tested	Proportion of direct walk-in to total persons tested (%)	Total persons tested positive		Direct walk-in persons tested positive	
				Number	%	Number	%
1999	7,804	264	3.4	750	9.6	78	10.6
2000	7,813	195	2.5	807	10.3	19	9.7
2001	7,216	506	7.0	801	11.1	83	16.4
2002	13,848	5,857	42.3	999	7.2	230	3.9
2003	11,682	2,948	25.2	1,016	8.7	179	6.1
2004	10,221	3,590	35.1	956	8.5	179	5.0
2005	11,814	4,312	36.4	1,029	8.7	372	8.6
2006	11,023	2,296	20.8	940	8.5	332	14.5
2007	12,485	2,500	20.0	1,029	8.3	391	15.6
2008	15,684	3,260	20.8	953	6.1	365	11.2
2009	21,220	6,362	30.0	901	4.2	401	6.3
2010	21,627	6,455	29.9	769	3.6	328	5.1
2011	25,532	11,917	46.7	630	2.5	282	2.4
2012	30,500	16,755	54.9	532	1.8	228	1.4
2013	38,482*	19,364	50.3	505	1.3	242	1.2

* Figure excludes number of clients tested at FICTCs

Table No. 12: Proportion of females and those in the age group 15-34 to total walk-in clients

Year	Proportion (%) of	
	Females among walk-in clients	Clients in the age-group 15-29
1999	33.7	40.5
2000	33.3	41.0
2001	39.5	40.9
2002	42.0	57.2
2003	80.8	62.8
2004	81.1	63.1
2005	78.3	59.4
2006	53.0	37.3
2007	38.5	44.9
Year	Females among walk-in clients	Clients in the age-group 15-34
2008	31.6	41.8
2009	27.4	58.3
2010	33.2	59.5
2011	36.3	60.0
2012	35.4	62.1
2013	37.7	62.6

Note: From 2008 onwards the age group 15-29 has been compared with 15-34 age groups

Table No. 13: Number of persons counseled at ICTCs, 2002 - 2013

	2002		2003		2004		2005		2006		2007		2008						
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female					
1. Number of persons counseled																			
1.1 Pre-test	6111	5793	11904	11634	5509	5215	10724	5967	5803	11770	5837	5142	10979	7775	4782	12,557	11235	4468	15705*
1.2 Post-test	619	843	1462	2397	759	2419	3378	844	2762	3606	4892	4155	9047	6934	3996	10930	10653	4329	14984*
1.3 Follow-up	99	71	170	141	136	114	250	61	67	128	59	44	103	58	46	104	79	72	151
2. Proportion of persons counseled (%)																			
2.1 Pre-test	82.2	90.3	86.0	99.7	99.4	99.6	92.2	99.4	95.6	99.6	99.6	99.6	99.6	99.6	99.8	100.0	100.0	100.0	100.0
2.2 Post-test	8.3	13.1	10.6	9.7	34.3	20.5	12.7	46.1	30.1	14.1	47.3	30.5	82.1	88.8	85.4	87.5	95.0	97.0	95.5
2.3 Follow-up	15.2	20.5	17.0	11.8	17.6	13.9	21.8	34.2	26.2	1.0	1.1	1.0	0.9	0.7	0.9	0.8	0.7	1.6	1.0

	2009		2010		2011		2012		2013										
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female									
1. Number of persons counseled																			
1.1 Pre-test	15007	6235	21245*	15038	6591	21639*	16124	9422	7	25553	19124	11374	7	30505	23467	15019	0	38486	
1.2 Post-test	13286	5501	18790*	14531	6356	20897*	15557	9049	7	24613	18840	11093	6	29939	23122	14708	0	37830	
1.3 Follow-up	149	119	268	254	218	472	278	236	0	514	379	243	5	627	394	315	0	709	
2. Proportion of persons Counseled (%)																			
2.1 Pre-test	99.9	99.9	99.9	99.9	99.9	100.0	99.8	99.9	100.0	99.9	99.9	99.9	100.0	100.0	99.9	100.0	99.9	0	99.9
2.2 Post-test	88.6	88.3	88.5	96.6	96.5	96.6	96.6	96.1	100.0	96.4	98.5	97.5	100.0	98.1	98.5	98.0	0	98.3	
2.3 Follow-up	1.0	1.9	1.3	1.7	3.3	2.2	1.7	2.5	0	2.0	2.0	2.1	71.4	2.1	1.7	2.1	0	1.8	

* includes 2 TS/TG in 2008, 3 in 2009 & 10 in 2010

Chart No.11: Proportion of direct walk-in to total persons tested, 1999 - 2013

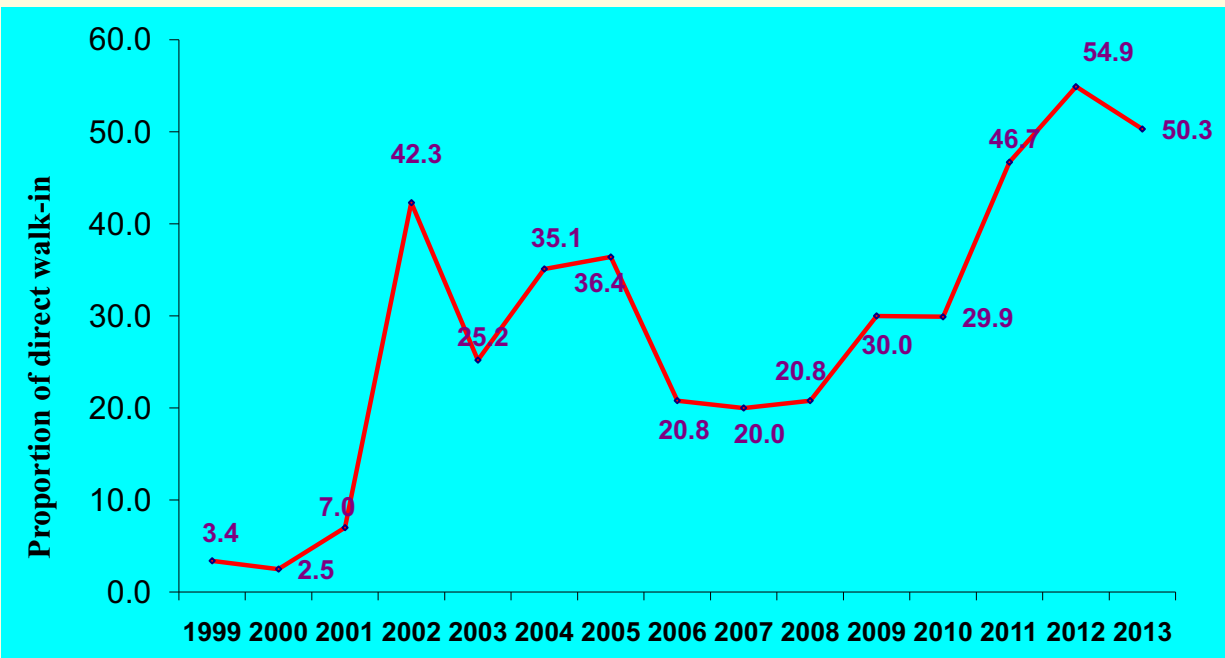


Table No. 12 depicts age-group/ sex-wise composition of direct walk-in persons undergoing HIV testing. It is observed that the proportion of direct walk-in females undergoing HIV testing was around 33 to 42% during the year 1999 to 2002. But these figures have registered a steep rise during 2003 and 2004 being around 81%. This is perhaps mainly due to the fact that with the launching of PPTCT programme, all the antenatal cases referred by the Gynaecology Department were treated as walk-in clients. However, during the year 2007, it declined to around 39%. For reporting purpose, the existing age groups i.e 15-29, 30-44 and 45 & above has been changed to 15-24, 25-34, 35-49 and 50 & above from 2008 onwards. Table No.14 presents the number of persons counseled at the ICTCs during 2002 to 2013. Though the proportion of reported number of clients receiving pre-test counseling was very high ranging between 95 to 100%, the actual situation is much different because in the case of most of the in-patients where the blood samples are sent with the consent form, no counseling is done by the attending doctor/ nurse. But based on the consent form, they are being treated as counseled. The proportion of patients who received post test counseling was 98% in 2013 and in the year 2004 it was only 30%. This achievement is mainly due to active participation of the public and awareness generation among the community.

Table No 14 presents sex-wise particulars of persons tested at ICTCs for the years 2002 to 2013. It is seen from the data that proportion of females tested positive among walk-in clients as also total females, has registered a marginal fall since 2006 to 2008 and from 2009 a steady rise is observed. Among males, the proportion of tested positive has gradually increased from 8.8% to 10.6 % during 2002 to 2005. But from 2006 onwards the trend has been reversed, i.e. the proportion of positivity among males has decreased from 10.15% to 1.3% during 2006 to 2013. The same trend has been observed in voluntary walk-in clients among males. The proportion of positive among walk-in male clients has decreased from 17.7% in 2006 to 1.3% in 2013.

Table No. 14: Sex- wise particulars of personstested at ICTCs, 2002 - 2013

Sr. No.	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1. Total number of persons tested												
1.1 Male	7,434	6,538	5,974	5,980	5,860	7,806	11,215	14,988	15,031	16,107	19,121	23,467
1.2 Female	6,414	5,144	5,245	5,834	5,163	4,679	4,467	6,229	6,586	9,418	11,372	15,015
1.3 TS/TG	0	0	0	0	0	0	2	3	10	7	7	0
1.4 Total	13,848	11,682	11,221	11,814	11,023	12,485	15,684	21,220	21,627	25,532	30,500	38,482
2. Number tested positive												
2.1 Male	652	646	623	634	595	662	582	534	499	375	336	308
2.2 Female	347	370	333	395	345	367	371	367	269	253	194	197
2.3 TS/TG	0	0	0	0	0	0	1	0	1	2	2	0
2.4 Total	999	1,016	956	1,029	940	1,029	954	901	769	630	532	505
3. Proportion tested positive												
3.1 Male	8.8	9.9	10.4	10.6	10.15	8.5	5.2	3.6	3.3	2.3	1.8	1.3
3.2 Female	5.4	7.2	6.3	6.7	6.7	7.8	8.3	5.9	4.1	2.7	1.7	1.3
3.3 TS/TG	0	0	0	0	0	0	0	0	10.0	28.5	28.5	0
3.4 Total	7.2	8.7	8.5	8.7	8.5	8.3	6.1	4.2	3.6	2.5	1.8	1.3
4. Total number of walk-in clients tested												
4.1 Male	2,225	570	677	934	1,078	1,536	2,231	4,616	4,321	7,581	10,630	12,060
4.2 Female	3,632	2,378	2,912	3,378	1,218	964	1,032	1,746	2,125	4,330	6,119	7,304
4.3 TS/TG	0	0	0	0	0	0	0	0	9	7	6	0
4.4 Total	5,857	2,948	3,590	4,312	2,296	2,500	3,263	6,362	6,455	11,912	16,755	19,364
5. Number tested positive among walk-in clients												
5.1 Male	132	107	92	192	191	228	186	209	181	162	131	156
5.2 Female	98	78	87	180	141	163	179	192	146	120	96	86
5.3 TS/TG	0	0	0	0	0	0	0	0	1	2	1	0
5.4 Total	230	265	179	372	332	391	365	401	328	284	228	242
6. Proportion tested positive among walk-in clients												
6.1 Male	5.9	18.8	13.6	20.5	17.7	14.8	8.3	4.5	4.2	2.1	1.2	1.3
6.2 Female	2.7	3.3	3.0	5.3	11.5	16.9	17.3	11.0	6.9	2.8	1.6	1.1
6.3 TS/TG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	28.5	16.7	0
6.4 Total	3.9	9.0	5.0	8.6	14.4	15.6	11.2	6.3	5.1	2.4	1.4	1.2

The number of AIDS cases and AIDS deaths reported to Goa State AIDS Control Society in 2013 is 51 and 61 respectively. The reported number of AIDS cases during the period from 1989 to 2013 were 1618 and AIDS related deaths during the period from 1993 to 2013 were 1012.

Chart No. 12: Trend in number of AIDS cases reported in Goa, 1989 - 2013

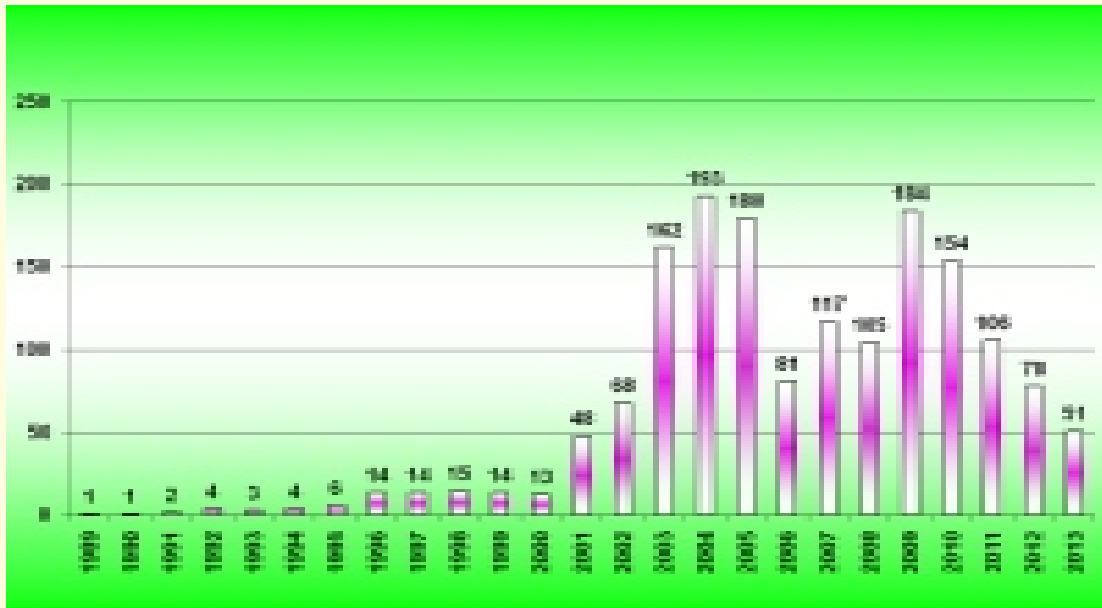
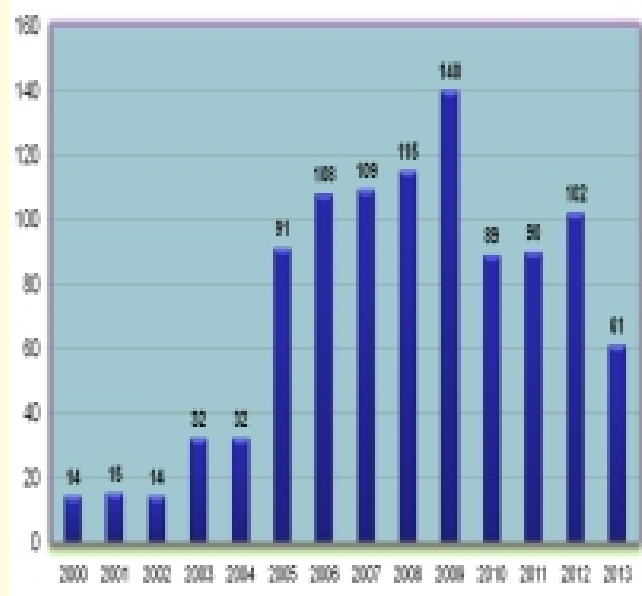


Table No. 15: Sex-wise reported number of AIDS deaths in Goa, 2000 - 2013

Year	Male	Female	TS/TG	Total
Cumulative figures (1993-2000)	11	3	0	14
2001	11	4	0	15
2002	12	2	0	14
2003	21	11	0	32
2004	23	9	0	32
2005	67	24	0	91
2006	75	33	0	108
2007	67	42	0	109
2008	88	27	0	115
2009	91	49	0	140
2010	60	29	0	89
2011	55	35	0	90
2012	67	34	1	102
2013	34	27	0	61
Total	682	329	1	1012

Chart No. 13: Reported number of AIDS deaths in Goa, 2000 - 2013



2. Goa's Response to HIV/AIDS

2.1 Introduction

When the first reported cases of HIV/AIDS were detected in 1987, Government of Goa initiated steps to target population at risk of infection with HIV screening and prevention efforts. In Goa, AIDS control programme was launched in May 1992 with the setting up of the „AIDS Cell“ under the Directorate of Health Services. As per the guidelines of Government of India, for smooth flow of funds to the programme and for greater functional autonomy, Goa State AIDS Control Society (GSACS) was established in April 1999. For effective control and prevention of the epidemic, GSACS primarily facilitates and directs various activities at the State and local levels. The first phase of the National AIDS Control Programme (NACP) was implemented during 1992-1999 mainly to slow down the spread of HIV, to reduce future morbidity, mortality and the impact of AIDS by initiating a major effort in the prevention of HIV transmission. The second phase of NACP (1999-2006) had two key objectives viz. (i) Reduce the spread of HIV infection in Goa and (ii) Strengthen Goa's response to HIV/AIDS on a long-term basis. Some of the strategies adopted in its efforts to prevent and control HIV/AIDS were:

- Prevent further spread of the disease by:
 - Improving HIV/AIDS awareness and providing necessary skills/tools to protect themselves.
 - Controlling STDs including condom promotion.
 - Ensuring availability of safe blood and blood products.
- Creating a socio-economic environment that enables individuals to protect themselves from infection and allows families and communities to provide care and support to people living with HIV/AIDS.
- Improve services at all levels – hospitals and community based home care – that provide care for people living with HIV/AIDS.

The Phase-III (2007-12) of National AIDS Control Programme has no doubt built on the strengths developed, lessons learnt, gaps identified and experiences gained in the previous two phases of NACP and consolidate the achievements. However, HIV can no more be the sole agenda of one organization or department. Mainstreaming HIV/ AIDS

into the exiting responses of various development processes and Government/ non-Government responses is a cost effective and efficient approach to address the direct and indirect causes and impact of the epidemic. Strengthened partnerships with traditional and non-traditional stakeholders from Government, civil society and private sector were a critical strategy for facilitating sustained outreach and coverage. The long-term vision of NACP III was to make HIV/ AIDS everybody's responsibility and move towards the goal to stabilize HIV prevention- **zero new HIV infection.**

Some of the visions envisaged in the NACP-III

- To create an enabling environment conducive for mobilization and empowerment and achieving saturated coverage (80%) of high-risk population towards reducing the risk of HIV infection by 2012. This included addressing the core issue of capacity building among all constituencies involved in the planning and implementation of TI.
- To have a holistic approach to service delivery and provide all the required services at one stop centre in an integrated mode. Improve quality of care, enhance and support initiatives for HIV infected ensuring sustained care and support with 90% coverage for OIs/ ART.
- To have a cohesive training strategy to translate the overall objectives of strategic planning for HIV/ AIDS prevention and control into reality with capacity building as the guiding principle.
- Decentralization of the entire planning and implementation process down to district/ taluka/ grass root levels to match the ground realities.
- To protect all sexual acts having risk of HIV/ STI transmission and unintended pregnancies by enhancing knowledge and behaviour change, increasing access and minimizing wastage of condoms and directing specific condom promotion strategies.

- To prevent further spread of HIV to the general population based on the vulnerability. The vision is: „Together we will win against HIV/ AIDS through social ownership and social action.“
- Greater Involvement of People living with HIV/AIDS (GIPA) i.e. empowered involvement of people living or affected by HIV/ AIDS, which is critical for appropriate and effective responses.
- Everyone is having access to rights without any discrimination, including the highest standard of health, living, services, information, support structures, facilities and networks.
- To mitigate the vulnerabilities of children, adolescents, young people, women and other gendered identities in relation to HIV/ AIDS by enhancing their access and participation to comprehensive and appropriate HIV/ AIDS programme in the prevention of HIV, care and support continuum through rights based gender sensitive approach.
- To have evidence based strategic planning and better programme management, Strategic Information Management Unit (SIMU) to be set up at the State level and M & E units to be set up at the district level with requisite capacity building training for M & E Officer and Project Managers on how to use data for management and in conducting self assessment of service quality & client satisfaction.

With these brief visions, it was proposed to halt and reverse the epidemic in Goa by 2012.

NACP – IV Planning process

National AIDS Control Programme Phase III (NACP III) was launched in July 2007 with the goal of Halting and Reversing the Epidemic by the end of project period in mid 2012. The National AIDS Control Organization (NACO) has initiated the process to start the next phase of the program. The program will build on the successes of the robust NACP III and ensure completion of the reversal of the epidemic through enhanced prevention linked with care support and treatment.

The NACP III strategy and implementation plan was developed based on the synthesis of evidence with wide range of consultations with government departments, civil society, public and private sector partners, NGOs, PLHA networks. The entire process was a home grown yet world class program that was appreciated by the global community.

Program reviews indicate that most of the targets set for NACP III would be achieved by mid 2012 in terms of scale-up of coverage of HRG, safe blood supply, testing services, scale-up of ART and various interventions with community ownership and following principles such as GIPA. However, consolidating the gains and ensuring quality and coverage will require attention in the next few years.

The process to develop the plan for the next phase of the programme is being initiated. The next phase will continue to be inclusive and focused on marginalised, weaker sections and hard-to-reach population. NACP has explored various approaches towards this. NACP IV will continue to provide care, support and treatment to all eligible population along with focused prevention services for the high-risk groups and vulnerable populations.

The NACP IV planning is adopting the inclusive, participatory and widely consultative approach similar to that of NACP III and is further strengthening on the globally acclaimed and successful planning efforts of NACP III. The process will essentially involve a wide range of consultations with a large number of partners including government departments, development partners, non-governmental organizations, civil society, representatives of people living with HIV, positive networks and experts in various subjects. NACP IV development will use specific mechanisms and follow a structured process.

For the control and prevention of HIV/AIDS in Goa, GSACS over the last 13 years has initiated various measures and has also developed certain infrastructure facilities/ services, which are listed below:

2.2 Blood Safety

- All the blood banks under the State Government i.e. those attached to the Goa Medical College and the two district hospitals viz. Hospicio and Asilo have been modernized and suitably strengthened with requisite blood bank equipments, trained manpower, consumables, chemicals and other infrastructure.
- Testing of every unit of blood for detecting infections for diseases like Hepatitis B & C, Syphilis and Malaria apart from testing for HIV has been made mandatory to ensure that only safe blood is released for transfusion as per the National Blood Safety Policy. For this purpose, necessary kits, equipment, reagents, glassware and blood bags are supplied to the above three blood banks by Goa State AIDS Control Society.
- Goa State Blood Transfusion Council has been set up to oversee blood transfusion services and ensure effective implementation of the programme and better management of blood banking services at State/District levels.
- Professional donors have been totally banned in Goa and efforts are being made to gradually phase out replacement donors and achieve 100% voluntary donation programme. As can be seen from Table No.17, voluntary donation has increased from 28.7% in 2000 to 84.3% in 2013.
- Regular blood donors and NGOs who organize blood donation camps on a regular basis were felicitated by the Goa State Blood Transfusion Council at the State level function on Voluntary Blood Donation Day i.e. 1st October in recognition of their contribution.
- Replacement donors are being motivated to become regular voluntary donors. Young people are being encouraged to form voluntary blood donation clubs in colleges, etc.
- Sustained awareness campaigns to educate and motivate people to donate blood voluntarily using various media are being undertaken.

- A Blood Component Separation Unit (BCSU) has been set up at Goa Medical College in October 2002, for proper and optimal clinical use of blood for transfusion. The BCSU also helps to improve availability of adequate blood components and their use instead of whole blood.

Blood Safety Programme in NACP-IV

Although Blood Safety is currently an integral component of NACP, it has been recommended by the Working Group to change the nomenclature from Blood Safety to Blood Transfusion Service, in view of the expanded scope with inclusion of other elements of Blood Transfusion Services. Further, in view of the changing role of this component, till the time, it is recognized as a separate programme under Department of AIDS Control, it will continue to be reflected under NACP - IV.

During NACP-IV, the aim of this activity is to achieve 90% of the annual requirement of blood exclusively through voluntary non-remunerated donation.

- Educating the society for recruitment and retention of low-risk blood donors.
- Training of voluntary organizations in donor recruitment and retention.
- Integrate messages on blood donation in the school curricula.
- One dedicated donor motivator cum counselor to be provided up to district level blood bank.
- Augment partnerships with government departments and nongovernmental organizations such as national Red Cross, voluntary blood donor organizations, national service organizations. For targeting rural areas, co-ordinate with NYKs to promote voluntary blood donation.
- Blood banks and blood storage centres at district and sub district levels will be established during NACP-IV where such facilities are non-existent.
- Computerization up to district level blood bank will be required for implementation of networking with one data entry operator in each blood bank and a nodal officer at the state level.

- The mechanism of transportation of blood and blood products to be strengthened.
- There is a need to introduce a phase wise automation in large volume blood banks.
- To institute EQAS programme for blood bank serology; Proficiency testing (EQAS) will be initiated to improve quality.
- Implementation of quality management systems in all blood banks which includes support accreditation of blood; and develop quality policy, procedures & reporting formats to ensure uniformity in documentation and traceability.

Appropriate use of blood and blood products

- Hospital transfusion committees would be set up in all medical colleges and district hospitals so that regular performance audit is preformed and feedback given to health providers on use of blood and blood products.
- Haemo-vigilance to be piloted in select centres and then scaled up in a phased manner

In Goa there are in all five blood banks - three under the State Government and two private. Table No. 16 presents the number of blood units collected in the blood banks attached to Goa Medical College, Asilo Hospital and Hospicio Hospital. During 2013, one District Hospital in North Goa namely Asilo Hospital was shifted to new premises and was functioning as Blood Storage Centre since the license was in the process of being granted. As can be seen from the table, about 8 to over 16 thousand units of blood are collected annually in these blood banks of which Goa Medical College alone accounts for 80 to 90%, followed by Hospicio Hospital with about 8 to 15 %. The number of blood units collected by the private blood banks is relatively very less in Goa.

Table No. 16: Number of blood units screened for HIV positivity in State Government blood banks, 2000 - 2013

Year	Number of blood units collected			HIV reactive			%age reactive		
	Voluntary	Replacement	Total	Voluntary	Replacement	Total	Voluntary	Replacement	Total
2000	2292 (28.7)	5699 (71.3)	7991 (100.0)	22	93	115	0.96	1.63	1.44
2001	2720 (30.9)	6088 (69.1)	8808 (100.0)	35	82	117	1.29	1.35	1.33
2002	3120 (33.3)	6254 (66.7)	9374 (100.0)	47	120	167	1.51	1.92	1.78
2003	4453 (45.3)	5373 (54.7)	9826 (100.0)	25	77	102	0.56	1.43	1.04
2004	6105 (55.8)	4837 (44.2)	10942 (100.0)	52	55	107	0.85	1.14	0.98
2005	6231 (53.4)	5440 (46.6)	11,671 (100.0)	27	58	85	0.43	1.07	0.73
2006	6777 (58.6)	4781 (41.4)	11,558 (100.0)	8	23	31	0.11	0.48	0.26
2007	7764 (62.6)	4632 (37.4)	12,396 (100.0)	26	21	47	0.34	0.45	0.38
2008	8512 (61.4)	5350 (38.2)	13,862 (100.0)	24	35	59	0.28	0.65	0.42
2009	9910 (65.8)	4266 (34.2)	14176 (100.0)	19	15	34	0.19	0.35	0.23
2010	12053 (76.5)	3706 (23.5)	15759 (100.0)	29	16	45	0.24	0.43	0.29
2011	11612 (76.5)	3571 (23.5)	15183 (100.0)	23	7	30	0.20	0.20	0.20
2012	12937 (85.8)	2141 (14.2)	15078 (100.0)	13	3	16	0.10	0.14	0.11
2013	13885 (84.3)	2578 (15.7)	16463 (100.0)	12	1	13	0.08	0.04	0.08

Table No. 17: Number of blood units screened for other transfusion related diseases in State Government blood banks, 2000 - 2013

Year	Number tested	Reactive				%age reactive			
		Hep. B	Hep. C	VDRL	Malaria	Hep. B	Hep. C	VDRL	Malaria
2000	7991	99	N.A.	14	0	1.24	N.A.	0.18	0
2001	8808	142	N.A.	33	0	1.61	N.A.	0.37	0
2002	9374	109	20	13	0	1.16	0.21	0.13	0
2003	9826	101	125	10	1	1.03	1.27	0.10	0.01
2004	10942	102	92	14	0	0.93	0.84	0.13	0
2005	11671	92	57	22	0	0.79	0.49	0.19	0
2006	11558	78	54	21	0	0.67	0.46	0.18	0
2007	12396	84	56	19	0	0.68	0.45	0.15	0
2008	13862	106	60	18	0	0.76	0.43	0.13	0
2009	14176	108	27	11	0	0.76	0.19	0.08	0
2010	15759	114	31	17	0	0.72	0.20	0.10	0
2011	15183	106	26	5	0	0.70	0.17	0.03	0
2012	15078	70	13	15	0	0.46	0.09	0.10	0
2013	16463	91	15	4	0	0.55	0.09	0.02	0

Table No. 18: Blood bank-wise number of blood units collected, 2013

Blood Banks	Voluntary			Replacement			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
GMC	9885	1521	11406	2196	190	2386	12081	1711	13792
Hospicio	2023	456	2479	177	15	192	2200	471	2671
SMRC	102	12	114	52	15	67	154	27	181
Apollo Victor	76	14	90	477	83	560	553	97	650
Total	12086	2003	14089	2902	303	3205	14988	2306	17294

Proportion of Blood units collected in the two blood banks under State Government was nearly 95.2% of which 79.8% was from GMC. Private blood banks contributed only 4.8% of the blood units collected.

Voluntary donation accounted for nearly 81.5% of the blood units collected. In the State Government blood banks the proportion of voluntary donation was 84.3%.

13.3% of the donors were females. Among voluntary donors the proportion of females was 14.2% as compared to 9.5% among replacement donors.

In all, 273 bloods donation camps were organized, 205 by GMC and 68 by Hospicio.

11200 units of blood were collected in the camps by the 2 Blood Banks, which constituted 68 % of the total blood units collected by these 2 Blood Banks.

HIV Sero positive cases among donors blood bank-wise in 2013

GMC	Hospicio	SMRC	Apollo
0.06%	0.19%	0.0%	0.31%

Average number of blood units collected per camp during 2013

GMC	Hospicio
45.1	28.6

Table No. 19: Year-wise number of blood units collected, 2005 - 2013

Year	Voluntary blood collection			Replacement blood collection			Total collection			% of Voluntary collection		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2005	5293	1314	6607	4706	541	5247	9999	1855	11854	52.94	70.84	55.74
2006	5714	1405	7119	4793	591	5384	10507	1996	12503	54.38	70.39	56.94
2007	6628	1298	7926	5115	634	5749	11743	1932	13675	56.44	67.18	57.96
2008	7048	1537	8585	5652	695	6347	12700	2232	14932	55.50	68.86	57.49
2009	8460	1589	10049	4719	595	5314	13179	2184	15363	64.19	72.76	65.41
2010	10097	2145	12242	4174	490	4664	14271	2635	16906	70.75	81.40	72.41
2011	9641	1918	11559	4075	554	4629	13716	2472	16188	70.29	77.59	71.40
2012	11096	2017	13113	2775	284	3059	13871	2301	16172	79.99	87.66	81.08
2013	12086	2003	14089	2902	303	3205	14988	2306	17294	80.64	86.86	81.47

Table No. 20: Reporting unit/ District-wise number of blood units collected and sero positivity, 2013

Reporting unit/ Blood bank	Voluntary collection	Replacement collection	Total collection	% of Voluntary collection	Collection in camps	Camps organised	% camp collection	HIV positive	%HIV positivity
Blood Bank, Goa Medical College, Bambolim	11406	2386	13792	82.70	9252	205	67.1	8	0.06
North Goa	11406	2386	13792	82.7	9252	205	67.1	8	0.06
Blood Bank, Hospicio Hospital, Margao	2479	192	2671	92.8	1948	68	72.9	5	0.19
Blood Bank, SMRC/Vivus, Mormugao	114	67	181	63.0	0	0	0	0	0.00
Blood Bank, Apollo Victor Hospital, Margao	90	560	650	13.8	0	0	0	2	0.31
South Goa	2683	819	3502	76.6	1948	68	55.6	7	0.20
Total	14089	3205	17294	81.5	11200	273	64.8	15	0.09

Table No. 21: Year-wise number of blood units collected and its status, 2005 - 2013

Year	Volun- tary collec- tion	Replac- ment collec- tion	Total collec- tion	HIV positive			Hep. B			Hep. C			VDRL		
				Volun- tary	Replac- ment	Total	Volun- tary	Replac- ment	Total	Volun- tary	Replac- ment	Total	Volun- tary	Replac- ment	Total
2005	6607	5247	11854	27	59	86	40	53	93	35	23	58	6	17	23
2006	7119	5384	12503	8	27	35	41	41	82	30	29	59	6	17	23
2007	7926	5749	13675	26	25	51	57	39	96	36	33	69	7	12	19
2008	8585	6347	14932	24	42	66	54	59	113	33	36	69	6	13	19
2009	10049	5314	15363	19	16	35	73	43	116	19	8	27	7	4	11
2010	12242	4664	16906	29	20	49	83	39	122	21	10	31	13	4	17
2011	11559	4629	16188	23	8	31	87	21	108	20	6	26	5	0	5
2012	13871	2301	16172	13	3	16	56	23	79	13	2	15	12	3	15
2013	14988	2306	17294	12	3	15	78	14	92	12	3	15	4	0	4

Table No. 22: Year-wise number of blood units tested, number found reactive and percentage reactivity, 2005 - 2013

Year	Total blood units tested	Reactive						%age reactivity					
		HIV+	Hep. B	Hep. C	VDRL	Malaria	HIV +	Hep. B	Hep. C	VDRL	Malaria		
2005	11854	86	93	58	23	0	0.73	0.78	0.49	0.19	0		
2006	12503	35	82	59	23	0	0.28	0.66	0.47	0.18	0		
2007	13675	51	96	69	19	0	0.37	0.70	0.50	0.14	0		
2008	14932	66	113	69	19	0	0.44	0.76	0.46	0.13	0		
2009	15363	35	116	27	11	0	0.23	0.76	0.18	0.07	0		
2010	16906	49	122	31	17	0	0.29	0.72	0.18	0.10	0		
2011	16188	31	108	26	5	0	0.19	0.54	0.16	0.54	0		
2012	16172	16	79	15	15	0	0.1	0.49	0.09	0.09	0		
2013	17294	15	92	15	4	0	0.09	0.53	0.09	0.02	0		

Table No. 23: Blood bank-wise blood units tested, number found reactive and percentage reactivity, 2013

Reporting unit / Blood bank	Total blood units tested	Reactive						%age reactivity					
		HIV+	Hep. B	Hep. C	VDRL	Malaria	HIV+	Hep. B	Hep. C	VDRL	Malaria		
Blood Bank, Goa Medical College, Bambolim	13792	8	58	9	0	0	0.06	0.42	0.07	0	0		
Blood Bank, Asilo Hospital, Mapusa	0	0	0	0	0	0	0	0	0	0	0		
Blood Bank, Hospicio Hospital, Margao	2671	5	33	6	4	0	0.19	1.24	0.22	0.15	0		
Blood Bank, SMRC/Vivus, Mormugao	181	0	1	0	0	0	0	0.55	0	0	0		
Blood Bank, Apollo Victor Hospital, Margao	650	2	0	0	0	0.31	0.00	0.00	0	0	0		
Total	17294	15	92	15	4	0	0.09	0.53	0.09	0.02	0		

2.3 Sexually Transmitted Infection (STI) / Reproductive Tract Infection (RTI) Control Programme

In view of the importance of treatment and control of STIs/RTIs in relation to HIV infection, STD Control Programme has been made an integral component of AIDS control policy for which Government of India has accorded top priority.

In Goa, the STD Control Programme was being implemented as a part of the National STD Control Programme since mid sixties by the Directorate of Health Services. With the arrival and spread of HIV infection and because of its strong relation with STD, the programme was brought under the purview of National AIDS Control Programme in the year 1992 as per the national pattern. With this, the programme has received the much needed boost as follows:

The STI/RTI Prevention & Control Programme, as it is known now is implemented through the following systems in the State of Goa:

- SACS funded Designated STI/RTI Clinics
- All NRHM supported CHCs/PHCs
- TI NGOs for High-Risk Groups

Goa SACS has made budgetary provision for STI/RTI Prevention & Control Programme for trainings, supportive supervision, salaries, consumables, procurement including IEC etc.

Adequate and comprehensive guidelines have been devised for case management including diagnosis, treatment, individual counseling, partner notification, testing, provision of condoms, etc.

STI/RTI management has been further simplified by syndromic management with the availability of STI//RTI colour coded drugs which are uniform across the country.

Orientation trainings, both induction and refresher trainings have been conducted every year for all the medical and paramedical workers engaged in providing STI/RTI services through syndromic approach have been conducted every year. Trainees include Resource faculty, DSRC Medical Officers, Lab. technicians, Counsellors, NRHM health facilities personnel and private practitioners who have been trained in STD syndromic case management i.e. management of STIs/RTIs based on specific symptoms and not dependent on laboratory investigations.

All the four Government Designated STI/RTI Clinics (DSRCs) in Goa have been branded as “Suraksha Clinics” for standardization and greater visibility. These Clinics are located in the Department of Skin and V.D., Goa Medical College; Hospicio Hospital, Margao; District Hospital (Asilo), Mapusa & Chicalim Hospital, Vasco and have been strengthened by providing technical support, equipment, reagents, drugs and manpower in the form of STD Counsellor in each clinic.

SACS has good convergence activities with NRHM as well as TI NGOs so that there is efficient service delivery at all level.

Management of STI/RTI has been incorporated/ integrated into the general health service/peripheral health system; so that patients are able to access treatment at any health centre convenient to them and also unnecessary referrals can be avoided leaving the specialized service free for management of complicated cases.

For High-Risk Groups (HRGs) such as FSWs, MSM, IDUs, Migrant labour, Truckers, etc. the TI NGOs working in coordination with Preferred Private Providers (PPPs) provide comprehensive STI care with special emphasis on early detection and prompt treatment of STIs/RTIs, regular quarterly medical checkup to screen for asymptomatic infections and presumptive treatment for new HRGs and those who are met after 6 months and biannual screening for HIV and Syphilis. These PPPs are those doctors who are preferred by the HRGs and have been trained in STI/RTI syndromic management to ensure standardized quality service delivery. At present, 25 such PPPs have been identified.

Development of appropriate laboratory services for the diagnosis of STI/RTI including the State Reference Centre at Department of Microbiology, GMC, Bambolim.

Early diagnosis and treatment of especially asymptomatic infections through case finding and regular screening has been advocated/ encouraged.

Prevention and transmission of STD/HIV infection through IEC activities to raise awareness and educate the people regarding responsible sexual behavior, safer sex, risk reduction including condom usage and promotion of appropriate health care seeking behaviour.

Regular surveillance of ongoing programmes in order to assess epidemiological situation, monitor and evaluate the programmes through both CMIS and SIMS.

Greater emphasis is placed on strategies to prevent STI/RTI through integration of STD prevention in “IEC for HIV prevention” as well as service related activities.

Sensitization of community about the problems related to STIs/ RTIs through regular IEC activities including TV, Radio and Mass media.

Lessons learnt in NACP-III

Strengthening of cross referrals/ linkages between TI NGOs, DSRCs, NRHM and ART Centre is important for the success of STD Control Programme as well as HIV Prevention Programme.

There is no data available regarding STI/RTI patients undergoing treatment in Public & Private Sector Undertakings and hence, a MOU has been signed with ONGC, Railways, Professional organization like IADV, FOGSI and IMA at National level. Accordingly, in the State of Goa, advocacy programmes were conducted in GSL, MPT, Sesa Goa for both the health care providers and their staff and also with professional organization like IMA.

Action points

- Making gynaecologists and surgeons an integral part of STI /RTI Prevention Programme. Although linkages and coordination activities have been initiated they have to be further strengthened.
- Better convergence between SACS and NRHM in RCH activities
- Coordination with other agencies like IMA, ESI, MPT (Mormugao Port Trust), FOGSI, Railways, Mining and Industrial Estates, ONGC, defense etc. in the form of training of Doctors, Nurses, Lab. technicians in STI/RTI service delivery programme and monitoring of the programme so as to have standardized treatment and reporting protocols.

2.4 STD Surveillance

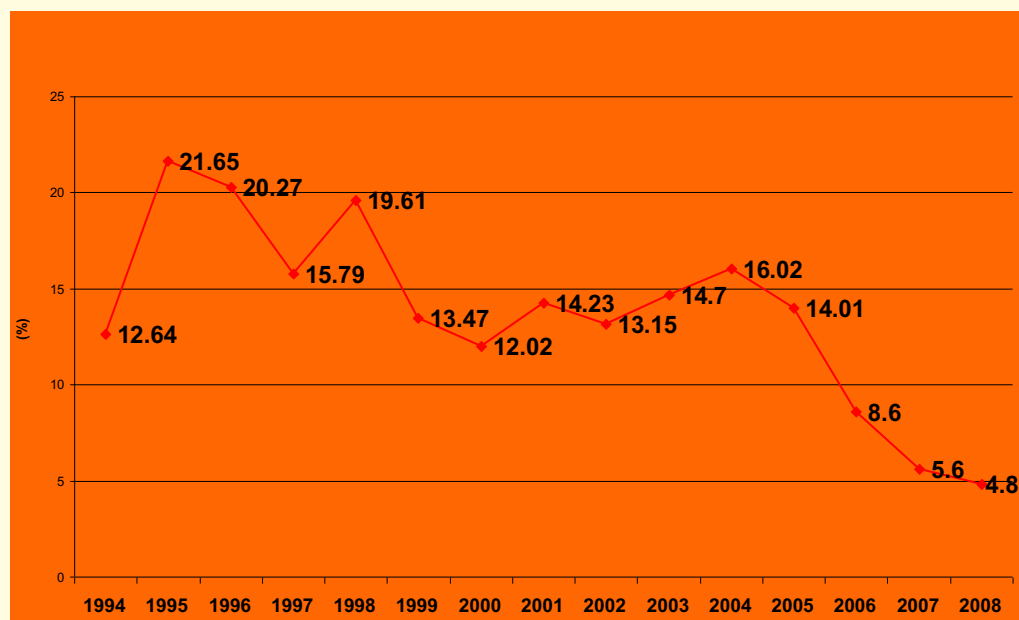
The HIV Positivity profile among STD patients in Goa during 1994 to 2008 is presented in Table No. 25. The details of STDs detected in the Government STD Clinics during the period 2008 to 2011 are presented in Table No.26. In Goa, the most common STD among males is Chancroid and Syphilis and among females Candidiasis.

Table No. 24: HIV positivity profile among STD patients in Goa, 1994 - 2008

Year	Prevalence rate (%) among STD attendees	Sentinel Sites
1994	12.64	STD clinic Baina
1995	21.65	STD clinic Baina
1996	20.27	STD clinic Baina
1997	15.79	STD clinic Margao
1998	19.61	STD clinic Baina and Margao
1999	13.47	STD clinic Baina and Margao
2000	12.02	STD clinic Margao and GMC
2001	14.23	STD clinic Margao and GMC
2002	13.15	STD clinic Margao and GMC
2003	14.70	STD clinic Margao and GMC
2004	16.02	STD clinic Margao and GMC
2005	14.01	STD clinic Margao and GMC
2006	8.60	STD clinic Margao and GMC
2007	5.60	STD clinic Margao and GMC
2008	4.80	STD clinic Margao and GMC

Note: Since 2009, NACO has not selected STD HSS sites from Goa.

Chart No. 14: HIV positivity rate among STD patients in Goa, 1994 - 2008



2.5 Integrated Counseling and Testing Centres (ICTCs)

In order to help people know their HIV status, to get early access to care and treatment, to prevent HIV related illness, to maintain safer sexual practices, to cope with HIV related anxiety and to plan for the future, voluntary testing facilities with pre-test/post-test counseling have been made available at Goa Medical College, one centre each at the two District Hospitals and one at Chicalim Hospital, Vasco. During the year 2006-07, four more ICTCs were set up at the CHCs (Canacona, Pernem, Valpoi and Curchorem), which are made fully functional. At present, on an average about 4,000 blood samples are screened per month. The proportion of walk-in clients at the ICTCs ranged between 2.5 to 7.0 per cent during the years 1999 to 2001. The corresponding figure for the year 2002 was to the tune of 43 per cent. This steep rise was mainly due to the initiative taken up for an intensive voluntary test drive during the AIDS Fortnight 1st to 14th December 2002. During the year 2013, the proportion of walk-in clients was 50.3%. From 2007, the Voluntary Counseling and Testing Centres (VCTCs) have been changed to Integrated Counseling and Testing Centres (ICTCs). Integrated because, it caters to both pregnant and direct walk-in clients. ICTC services have been made available at all the CHCs, coverage of spouses of pregnant mothers attending the ANC has been positively increased. Three new ICTC centres namely PHC Candolim, Central Hospital, Usgao and TB & Chest Diseases Hospital, St. Inez have been established. The ICTC located at Central Hospital, Usgao has been shifted to new premises at Sub District Hospital, Ponda.

Chart No. 15: Number of persons tested and found positive, 1999 - 2013

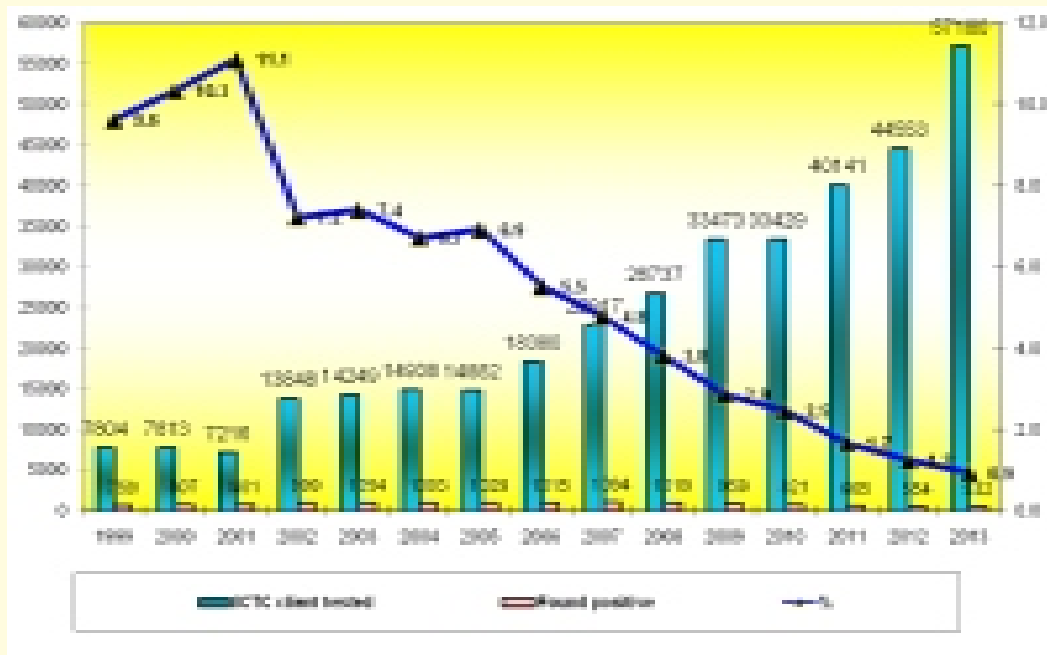


Table No. 26: Sex-wise number of General clients tested and found sero positive at various ICTCs in Goa, 2013

ICTC/Reporting Unit	Number of persons counselled			Number of persons tested			Number of persons found positive			% Positive		
	M	F	T	M	F	T	M	F	T	M	F	T
ICTC, Goa Medical College, Bambolim	4229	2241	6470	4229	2241	6470	133	93	226	0.2	4.1	3.5
ICTC (General), Asilo Hospital, Mapusa	1730	1627	3357	1730	1623	3353	26	21	47	0.1	1.3	1.4
ICTC Centre, TB & Chest Diseases Hospital	1128	609	1737	1128	609	1737	33	21	54	0.2	3.4	3.1
ICTC Centre, Central Hospital	2308	802	3110	2308	802	3110	13	6	19	0.0	0.0	0.6
ICTC Centre, PHC Candolim	2355	1904	4259	2355	1904	4259	10	7	17	0.0	0.4	0.4
ICTC, CHC, Pernem	801	433	1234	801	433	1234	2	0	2	0.0	0.0	0.2
ICTC, CHC, Valpoi	2470	2896	5366	2470	2896	5366	3	3	6	0.0	0.1	0.1
North Goa District	15021	10512	25533	15021	10508	25529	220	151	371	0.1	1.4	1.5
ICTC, Hospicio Hospital, Mangao	2049	1438	3487	2049	1438	3487	47	25	72	2.3	1.7	2.1
ICTC, CHC, Canacona	721	399	1120	721	399	1120	4	0	4	0.6	0.0	0.4
ICTC, Cottage Hospital	4935	2135	7070	4935	2135	7070	34	18	52	0.7	0.8	0.7
ICTC, Curchorem	741	535	1276	741	535	1276	3	3	6	0.4	0.6	0.5
South Goa District	8446	4507	12953	8446	4507	12953	88	46	134	1.0	1.0	1.0
Total	23467	15019	38486	23467	15015	38482	308	197	505	1.3	1.3	1.3

Table No. 27: Age/ Sex-wise number of General clients tested for HIV at ICTCs, 2013

ICTC/ Reporting Unit	Number of clients tested for HIV																													
	Less than 14						15 – 24						25 – 34						35 – 49						50+					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T						
ICTC, Goa Medical College, Bambolim	261	206	467	938	333	1271	1427	568	1995	1094	710	1804									509	424	933							
ICTC (General), Asilo Hospital, Mapusa	30	12	42	512	305	817	566	552	1118	396	549	945									226	205	431							
ICTC Centre, TB & Chest Diseases Hospital	3	9	12	162	75	237	206	112	318	284	169	453									473	244	717							
ICTC Centre, Ponda	87	51	138	531	159	690	973	211	1184	528	233	761									189	148	337							
ICTC Centre, PHC Candolim	6	5	11	1095	599	1694	850	770	1620	343	444	787									61	86	147							
ICTC, CHC, Pernem	9	4	13	196	46	242	260	106	366	187	151	338									149	126	275							
ICTC, CHC, Valpoi	7	10	17	462	650	1112	1201	1370	2571	621	740	1361									179	126	305							
North Goa District	403	297	700	3896	2167	6063	5483	3689	9172	3453	2996	6449									1786	1359	3145							
ICTC, Hospicio Hospital, Margao	69	56	125	698	367	1065	618	436	1054	437	360	797									227	219	446							
ICTC, CHC, Canacona	11	11	22	84	59	143	367	131	498	202	111	313									57	87	144							
ICTC, Cottage Hospital	36	28	64	1609	447	2056	2419	838	3257	692	675	1367									179	147	326							
ICTC, Curchorem	10	38	48	136	127	263	368	144	512	168	168	336									59	58	117							
South Goa District	126	133	259	2527	1000	3527	3772	1549	5321	1499	1314	2813									522	511	1033							
Total	529	430	959	6423	3167	9590	9255	5238	14493	4952	4310	9262									2308	1870	4178							

Table No. 28: Age/ Sex-wise number of General clients found sero positive at ICTCs, 2013

ICTC/ Reporting Unit	Number of clients diagnosed sero-positive																													
	Less than 14						15 - 24						25 - 34						35 - 49						50+					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T						
ICTC, Goa Medical College, Bambolim	4	6	10	7	3	10	27	23	50	72	40	112	23	21	44															
ICTC (General), Asilo Hospital, Mapusa	2	1	3	5	2	7	2	6	8	13	11	24	4	1	5															
ICTC Centre, TB & Chest Diseases	0	0	0	6	0	6	6	6	12	14	13	27	7	2	9															
ICTC Centre, Central Hospital	1	0	1	1	0	1	5	3	8	4	2	6	2	1	3															
ICTC Centre, PHC Candolim	0	0	0	1	0	1	3	4	7	5	3	8	1	0	1															
ICTC, CHC, Pernem	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1															
ICTC, CHC, Valpoi	0	0	0	0	0	0	1	2	3	2	1	3	0	0	0															
North Goa District	7	7	14	20	5	25	44	44	88	111	70	181	38	25	63															
ICTC, Hospicio Hospital, Margao	0	1	1	4	2	6	13	14	27	23	6	29	7	2	9															
ICTC, CHC, Canacona	1	0	1	0	0	0	0	0	0	2	0	2	1	0	1															
ICTC, Cottage Hospital	0	1	1	2	2	4	11	7	18	15	6	21	6	2	8															
ICTC, Curchorem	0	1	1	0	0	0	0	0	0	1	1	2	2	1	3															
South Goa District	1	3	4	6	4	10	24	21	45	41	13	54	16	5	21															
Total	8	10	18	26	9	35	68	65	133	152	83	235	54	30	84															

Table No. 29: Number of persons counselled and tested at ICTCs, 2013

ICTCs	Sex	Number of persons counselled						Number of persons tested for HIV		Number found HIV+ out of tested in ICTCs	
		Pre-test			Post-test			General	ANC	General	ANC
		General	ANC	Total	General	ANC	Total				
ICTC, GMC	M	4229	0	4229	4185	0	4185	4229	0	133	0
	F	2241	3307	5548	2215	3110	5325	2241	3307	93	8
	T	6470	3307	9777	6400	3110	9510	6470	3307	226	8
ICTC, District Hospital	M	1730	0	1730	1578	0	1578	1730	0	26	0
	F	1627	2623	4250	1399	2374	3773	1623	2623	21	6
	T	3357	2623	5980	2977	2374	5351	3353	2623	47	6
CHC, Pernem	M	801	0	801	801	0	801	801	0	2	0
	F	433	274	707	433	274	707	433	274	0	0
	T	1234	274	1508	1234	274	1508	1234	274	2	0
CHC, Valpoi	M	2470	0	2470	2433	0	2433	2470	0	3	0
	F	2896	869	3765	2883	869	3752	2896	869	3	0
	T	5366	869	6235	5316	869	6185	5366	869	6	0
ICTC, Hospicio	M	2049	0	2049	2049	0	2049	2049	0	47	0
	F	1438	2745	4183	1438	2738	4176	1438	2742	25	3
	T	3487	2745	6232	3487	2738	6225	3487	2742	72	3
ICTC, Cottage Hospital	M	4935	0	4935	4919	0	4919	4935	0	34	0
	F	2135	1680	3815	2123	1665	3788	2135	1680	18	5
	T	7070	1680	8750	7042	1665	8707	7070	1680	52	5
CHC, Curchorem	M	741	0	741	710	0	710	741	0	3	0
	F	535	674	1209	525	647	1172	535	674	3	3
	T	1276	674	1950	1235	647	1882	1276	674	6	3
Sub District Hospital, Ponda	M	2308	0	2308	2298	0	2298	2308	0	13	0
	F	802	1564	2366	799	1564	2363	802	1564	6	1
	T	3110	1564	4674	3097	1564	4661	3110	1564	19	1
CHC, Canacona	M	721	0	721	702	0	702	721	0	4	0
	F	399	540	939	387	538	925	399	540	0	1
	T	1120	540	1660	1089	538	1627	1120	540	4	1
ICTC, TB & Chest Hospital	M	1128	0	1128	1123	0	1123	1128	0	33	0
	F	609	0	609	605	0	605	609	0	21	0
	T	1737	0	1737	1728	0	1728	1737	0	54	0
PHC, Candolim	M	2355	0	2355	2324	0	2324	2355	0	10	0
	F	1904	282	2186	1901	282	2183	1904	282	7	0
	T	4259	282	4541	4225	282	4507	4259	282	17	0
Total	M	23467	0	23467	23122	0	23122	23467	0	308	0
	F	15019	14558	29577	14708	14061	28769	15015	14555	197	27
	T	38486	14558	53044	37830	14061	51891	38482	14555	505	27

2.6 Public Private Partnership (PPP)

Under the PPP model, the Goa SACS provides logistic support like HIV test kits and disposable delivery kits. There will also be technical support in terms of capacity building, regular monitoring and evaluation. The following eight private nursing homes/Clinics/Hospitals have consented to be the partners in this scheme.

1. Vrundavan Hospital and Research Centre, Mapusa
2. Anandi Nursing Home, Marcel
3. MPT Hospital, Vasco
4. Govind Kamat Hospital, Panaji
5. Vrundavan Shalby Hospital, St. Cruz
6. Chodankar Nursing Home, Porvorim
7. Mandovi Clinic, Porvorim.
8. Kamat Maternity & Surgical Hospital, Miramar.

2.7 Prevention of Parent-to-Child Transmission (PPTCT)

HIV epidemic in Goa has completed the 3rd phase (NACP-III 2007-12) where significant transmission has occurred through perinatal route. The annual proportion of HIV infection through this route is around 4 to 6% (including children < 14 years having HIV infection) in Goa. The sentinel survey data in Goa indicated that the prevalence rate among antenatal mothers varied from 0.0 to 1.38%. The efficacy of mother-to-child transmission ranges from 20 to 40%. Antiretroviral prophylaxis can reduce the maternal viral load and bring down transmission by more than 50%. PPTCT being a cost-effective strategy for prevention and control of the epidemic, PPTCT programme was launched at GMC in April 2003.

In Goa, about 21,000 live births occur annually and it is expected that about 70 infants will acquire HIV infection every year. During the last twelve years i.e. 1999 to 2010, the number of HIV-infected children (<15 years) detected in Goa at the ICTCs ranged between 33 to 69 in a year accounting for 4.1 to 7.3% of the total cases detected. With the progress of the epidemic in the general population and the increase in the

proportion of women in the reproductive age group, HIV transmission from mothers to infants is likely to increase in the coming years.

In Goa, during the year 2013, 532 (including ANC) new HIV infections were detected of whom 224 or 42.1% were females. Among the infected females, 84 % were in the reproductive age group i.e. 15-49 years, nearly 33% of females were in the age group 25-34 years and 4 % in the age group 15-24 years. There by indicating that young women in the reproductive age are being infected equally or more than women in older age group. Needless to point out, Mother-to-Child transmission will become a greater problem unless aggressive and effective preventive measures are undertaken now. It is pertinent to point out here that rise in paediatric AIDS cases has the potential to undermine the infant/ child survival gains made in Goa in the last few decades through comprehensive maternal and child health programme. PPTCT programme was extended to the two District Hospitals during 2006. Coverage for surveillance of antenatal mothers has increased because of the availability of ICTCs at all the CHCs, thus the positive antenatal from all ICTCs are referred for the PPTCT facility at the District /GMC hospitals.

Some of the critical components of PPTCT programme are:

- The programme envisages effective reduction of MTCT of HIV infection by providing quality antenatal care including preventive services.
- Provision of reproductive health related interventions in couple-setting.
- Promotion of rational use of blood.
- Voluntary Counseling and Testing for HIV infection .
- Health education to pregnant mothers covering nutrition, infant feeding practices, exclusive breastfeeding, birth spacing methods, etc.
- Interventions to reduce MTCT including antiretroviral drugs.
- Care and support to HIV infected mothers and children and reducing their vulnerability.

Table No. 30: Data on PPTCT programme, April 2003 to December 2013

Item	2003 (w.e.f. April)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
1.1 Total number of new ANC registered	2,903	3,755	3,208	8,139	12,758	12,705	12,981	13,743	17,328	16,242	17,381	1,21,143
1.2 Total number of women counseled	2,707	3,714	3,073	7,387	10,489	11,117	12,355	11,847	14,625	14,054	14,558	1,05,926
1.3 %age of women counseled among new ANC registered	93.2	98.9	95.8	90.8	82.2	87.5	95.1	86.2	84.4	86.5	83.8	87.4
1.4 Total number of women who accepted HIV test	2,567	3,717	3,068	7,357	10,432	11,053	12,250	11,801	14,490	14,053	14,555	1,05,343
1.5 Proportion of women accepting HIV test among those counseled	94.8	100.1	99.8	99.6	99.5	99.4	99.1	99.6	99.0	99.9	99.9	99.4
1.6 Total number of women found HIV positive	38	47	41	75	65	65	58	52	35	22	27	525
1.7 HIV prevalence rate (%)	1.48	1.26	1.34	1.02	0.62	0.59	0.47	0.44	0.24	0.16	0.18	0.50
1.8 Total number of women who received post test counseling	2,411	3,373	2,631	6,049	8,602	9,938	11,599	11,202	13,710	13,213	14,061	96,789
1.9 %age of women who received post test counselling among those tested	93.9	90.7	85.8	82.2	82.5	89.9	94.7	94.9	94.6	94.0	96.6	91.9
1.12 Total number of HIV positive women who collected HIV results	37	44	33	60	50	50	39	32	27	14	18	404
1.13 Percentage of HIV+ women who collected the result	97.4	93.6	80.5	80.0	76.9	76.9	67.2	61.5	77.1	63.6	66.7	77.0
2.1 Number of spouses/ partners of HIV positive women counseled	31	44	25	50	46	30	19	13	10	10	10	288
2.2 %age of partners of +ve women counseled among those collected the report	83.8	100.0	75.8	83.3	92.0	60.0	48.7	40.6	37.0	71.4	55.6	71.3
2.3 %age of partners of +ve women counseled to all +ve women	81.6	93.6	61.0	66.7	70.8	46.2	32.8	25.0	28.6	45.5	37.0	54.9
2.4 Number of spouses/ partners of HIV positive women accepted HIV test	29	44	25	50	46	30	19	13	10	10	10	286
2.5 %age of partners of +ve women counselled accepting the test	93.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3
2.6 Number of spouses/ partners detected HIV positive	19	35	21	44	46	30	19	13	10	10	10	257
2.7 HIV prevalence rate (%) of partners	65.5	79.5	84.0	88.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	89.9
3.1 Number of Women directly in labour without ANC registration	147	1,257	1,857	2,526	2,822	2,657	2,792	601	1,207	826	542	17,234

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Item	2003 (w.e.f. April)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
3.2 Number of women counseled who arrived in labour without ANC	122	1,201	1,772	2,239	2,423	2,285	2,473	601	1,207	826	542	15,691
3.3 %age of women counseled who arrived in labour without ANC	83.0	95.5	95.4	88.6	85.9	86.0	88.6	100.0	100.0	100.0	100.0	91.0
3.4 Number of women accepted HIV test (out of 3.2)	122	1,201	1,772	2,239	2,423	2,285	2,473	601	1,207	826	542	15,691
3.5 %age pf women (without ANC) accepting the test among those counseled	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3.6 Number of women detected HIV positive (out of 3.4)	3	11	11	8	12	1	3	0	0	0	0	49
3.7 HIV prevalence rate (%)	2.46	0.92	0.62	0.36	0.49	0.04	0.12	0	0	0	0	0.31
4.1 Total number of deliveries	4,039	4,947	4,116	7,191	9,571	7,049	7,231	8,778	8,256	9,975	10,457	81,610
4.2 Total number of live births to positive women (out of 1.6 and 3.6)	24	43	25	51	62	46	58	27	17	22	29	404
4.3 Total number of mother-baby pair received NVP	18	40	21	46	65	53	64	27	17	22	29	402
4.4 Number of mother-baby pairs received NVP who were registered for ANC (out of 1.6)	16	29	10	40	47	44	56	27	17	22	29	337
4.5 Number of mother-baby pairs received NVP who come directly in labour without ANC (out of 3.6)	2	11	11	6	11	1	2	0	0	0	0	44
4.6 Proportion of mother-baby pairs receiving NVP among live births to +ve women	75.0	93.0	84.0	90.2	104.8	115.2	110.3	100.0	100.0	100.0	100.0	99.5
Number of babies received NVP (out of 4.2)	20	41	19	40	49	41	56	27	17	22	29	361

Some of the salient features of the PPTCT programme are:

- About 99 per cent of the antenatal mothers accepted HIV test after counseling.
- HIV prevalence rate among antenatal mothers who accepted HIV test has decreased from 1.48% in 2003 to 0.18 in 2013.
- About 71% of the spouses/ sexual partners of HIV+ women were counseled of which 99 per cent opted for HIV testing.
- 89 per cent of the spouses who opted for HIV test were found to be HIV positive.
- Nearly 100% partners of +ve women accepted counselling
- Nearly 90% of women counselled arrived in labour without ANC.
- HIV prevalence rate (%) directly in labour has decreased from 2.46% in 2003 to 0% in 2013.
- 100% of mother-baby pairs receiving NVP among live births to +ve women

Table No. 31: MBP administered for ANC sero positive cases at ICTCs, 2013

ICTC/ Reporting Unit	ANC registered	ANC counselled	Tested	ANC found positive	% positive	Total +ve delivery	Live birth among Positive delivery	MB Pair covered with Nevirapine	% MB pair against positive identi- fication
ICTC, Goa Medical College, Bambolim	4423	3307	3307	8	0.24	28	28	28	100%
ICTC , District Hospital, Mapusa	3291	2623	2623	6	0.23	0	0	0	0
ICTC Centre, TB & Chest Diseases Hospital	-	-	-	-	-	-	-	-	-
ICTC, Sub District Hospital Ponda	1832	1564	1564	1	0.06	0	0	0	0
ICTC Centre, PHC Candolim	282	282	282	0	0	0	0	0	0
ICTC, CHC, Pernem	284	274	274		0.00	0	0	0	0
ICTC, CHC, Valpoi	869	869	869		0.00	0	0	0	0
North Goa	10981	8917	8917	15	0.17	28	28	28	100%
ICTC, Hospicio Hospital, Margao	3317	2745	2742	3	0.11	0	0	0	0
ICTC, CHC, Canacona	540	540	540	1	0.19	0	0	0	0
ICTC, Cottage Hospital	1805	1680	1680	5	0.30	0	0	0	0
ICTC, Curchorem	738	674	674	3	0.45	1	1	1	100%
South Goa District	6400	5639	5636	12	0.21	1	1	1	100%
Goa	17381	14558	14555	27	0.19	29	29	29	100%

2.8 Early Infant Diagnosis (EID)

Infant born to HIV positive mother is called “Exposed Infant” until the infant is no longer breastfed and it can be established that the infant is not infected. In order to establish if the infant has acquired HIV infection or not PCR (Polymerase Chain Reaction) testing is made available. This test will be done in infants from 6 wks to 18 months through the PPTCT Centres at GMC, Asilo Hospital, Hospicio Hospital and ICTC Chicalim.

2.9 TB/HIV Collaborative activities

TB/HIV collaborative activities were started in the year 2001 in the six high prevalence States with the objectives to establish mechanisms for Co-ordination between RNTCP & GSACS at State and District level, decrease morbidity and mortality due to tuberculosis among Persons Living with HIV/AIDS, decrease the impact of HIV in tuberculosis patients and provide access to HIV related care and support to HIV infected TB patients. The activities are now extended to the entire country.

Table No. 32: HIV-TB Coordination activities, 2008 - 2013

Year	Number of persons suspected to have TB referred to RNTCP unit			Of referred TB suspects, number diagnosed as having TB	RNTCP to ICTC	Number of persons suspected to have TB diagnosed HIV positive	Total cross referrals	Total co-infection
	HIV+	HIV-	Total					
2008	115	30	145	10	1539	124	1684	134
2009	414	508	922	44	1777	96	2699	140
2010	466	474	940	47	1628	89	2568	136
2011	354	550	904	31	1460	36	2364	67
2012	351	900	1251	35	1052	34	2303	69
2013	439	1162	1601	25	1663	30	3264	55
Total	2139	3624	5763	192	9119	409	9315	477

Table No. 33: HIV-TB Coordination activities, 2013

ICTC/ Reporting Unit	Number of persons suspected to have TB referred to RNTCP unit			Of referred TB suspects, number diagnosed as having TB	RNT CP to ICT C	Number of persons suspected to have TB diagnosed HIV+	Total Cross Referrals	Total Co-infection
	HIV+	HIV-	Total					
ICTC, Goa Medical College, Bambolim	296	206	502	22	397	3	899	25
ICTC, Asilo Hospital, Mapusa	17	262	279	0	162	2	441	2
ICTC Centre, TB & Chest Diseases	0	0	0	0	414	17	414	17
ICTC Centre, Sub District Hospital, Ponda	17	88	105	0	50	1	155	1
ICTC Centre, PHC Candolim	18	108	126	0	131	1	257	1
ICTC, CHC, Pernem	1	37	38	1	20	1	58	2
ICTC, CHC, Valpoi	0	374	374	0	45	0	419	0
ICTC, Hospicio Hospital, Margao	54	1	55	2	160	3	215	5
ICTC, CHC, Canacona	1	24	25	0	219	1	244	1
ICTC, Cottage Hospital	32	17	49	0	33	1	82	1
ICTC, Curchorem	3	45	48	0	32	0	80	0
Total	439	1162	1601	25	1663	30	3264	55

2.10 Information, Education, Communication (IEC) & Social mobilisation

Information, Education and Communication (IEC) is a process that informs, motivates and helps people to adopt and maintain healthy practices and life skills. It aims at empowering individuals and enabling them to make correct decisions about safe behaviour practices. IEC also attempts to create an environment that is conducive and supports access to treatment and services for those already infected. In the absence of a vaccine or a cure, prevention is the most effective strategy for the control of HIV/ AIDS and therefore communication is one of the most important strategies in the fight against HIV/ AIDS and STDs. The second phase of the National AIDS Control Programme gives highest priority to an effective and sustained strategy to bring about changes in behaviour to prevent further infection. A full range of activities and approaches from mass media campaigns for the general public to target specific interventions to help individuals to negotiate safer practices are being adopted. IEC programmes have also been integrated in various components of the programme such as STD services, condom promotion, Blood safety, TIs, etc.

Basic objectives of the IEC strategy

- To raise awareness, improve knowledge and understanding among the general population about AIDS infection and STD, routes of transmission and methods of prevention.
- To promote desirable practices such as avoiding multi-partner sex, condom use, sterilization of needles/syringes and voluntary donation of blood.
- To mobilize all sectors of society to integrate messages and programmes on HIV/ AIDS into their existing activities.
- To train health workers in AIDS communication and coping strategies for strengthening technical and managerial capabilities.
- To create a supportive environment for the care and rehabilitation of persons with HIV/AIDS.

The various components of the IEC strategy for raising awareness, behavioural change and social mobilizations are:

- Use of mass media
- Advocacy at various levels
- Inter-sectoral collaboration
- Training
- Involvement of NGOs
- Red Ribbon Clubs

Some of the activities undertaken by Goa State AIDS Control Society to raise the awareness levels and to bring about behaviour changes are:

A: General

- General education programmes on HIV/AIDS are conducted for the youth organizations, voluntary bodies, Government departments, women, high-risk groups, schools, colleges, industrial estate workers, etc.
- Live phone-in Programmes are being conducted on FM Radio as well as on Doordarshan to create awareness on HIV/AIDS.
- Awareness messages on HIV/AIDS and services provided by Goa SACS are displayed on panels of KTC buses.
- Signboards providing information on various services to control HIV/ AIDS are displayed at prominent places.
- A mobile exhibition van with educational material on HIV/AIDS travels to all the college campuses to create awareness on HIV/AIDS among the youth and general population.
- Mid Media campaign is conducted through a hired agency, wherein street plays are conducted along with IEC through mobile van. Annually, about 200 Street plays are being held.
- Hoardings at strategic locations are erected for awareness generation on HIV/AIDS.
- Video spots /Awareness promos on HIV/AIDS are screened on cable network channels throughout Goa.
- Audio spots are played on AIR and FM radio.
- Televisions are installed in-patient and out-patient departments of GMC for screening of spots on HIV/AIDS during the OPD hours.

- Handbills and pamphlets on STD and HIV/AIDS produced in different languages.
- Posters on STD/HIV/AIDS/Blood Safety/Post Exposure Prophylaxis, etc. are produced and distributed to all the Hospitals, Health Centres, NGOs, etc.
- World AIDS Day is observed on 1st December every year at the State level and also at all the Primary Health Centres as well as by the NGOs. During the year 2013, at the State level function, Dr. Pradeep Padwal, Shri Kalidas K. Ghatwal and Shri Shirish Lawande were felicitated for their outstanding contribution to the HIV/AIDS prevention & control programme, spreading the message of HIV/AIDS & increasing the awareness about HIV/AIDS. All the NGOs were also felicitated in appreciation of their dedicated services rendered for the prevention & control of HIV/AIDS.
- World Blood Donor day and Voluntary Blood Donation Day is observed every year. Regular voluntary blood donors and NGOs who organize regular Voluntary Blood Donation Camps are felicitated.
- Informative sessions/ open forum on HIV/ AIDS/ STDs are organized for industrial workers, police personnel and postal staff. All queries, doubts, misgivings on sex, sexuality and other related topics are answered by a team of doctors at the work place.
- To catalyze an expanded response towards HIV/AIDS epidemic, Goa SACS has inter-sectoral collaboration with all the Government Departments, NGOs, industries, political leaders, etc. by networking and advocacy.

B: Awareness in Educational Institutions

- Red Ribbon Clubs (RRCs) have been established in educational Institutions in order to generate awareness on HIV/AIDS and promote voluntary blood donation among youth. 136 RRCs have been established in various educational Institutions in Goa till date.
- Adolescence Education Program has been initiated through SCERT where Sexual Health Education and Life Skill Education are imparted in schools.
- Elocution, Quiz and Poster Competitions are conducted during October to December at School, Higher Secondary School and College level.
- Talks on HIV/AIDS are given by the Health Officers/Medical Officers in schools and colleges in their jurisdiction.
- Programmes on HIV/AIDS are being carried out at the PTA meetings in different schools in Goa.

- Question-answer sessions are held in different educational institutions where a panel of resource persons from the GSACS and GMC answer the questions asked by the students anonymously.

The National AIDS Control Programme seeks to attain awareness level of not less than 90% among the youth and others in the reproductive age group by the end of the project. It is rather encouraging to note that in some key important areas like generation of awareness about HIV/ AIDS which were almost insignificant at the beginning of the epidemic have increased among the general population both in urban and rural areas as also among the high risk groups. The Behavioural Surveillance Survey (BSS) carried out by Government of India in 2006 among the general population in various States has revealed that:

- The overall awareness about HIV/ AIDS among people in the age-group 15-49 years in Goa was 93.6%, males 97.0% and females 90.2%. In urban areas, awareness levels were much higher being 99.0% for males and 94.6% for females. The lowest awareness was among rural women (87.2%).
- About 91% of the respondents were aware that HIV/ AIDS is transmitted through sex. This level of awareness was next only to Kerala (96%). (Figures for all-India was 75% and the lowest was in Bihar 51%). The corresponding rates were higher among urban residents (95.5) and males (urban males 95 %) lowest was among rural females (84%).
- Awareness of transmission of HIV/ AIDS through blood (95%) and sharing of needles (94%) was consistently high. About 69% were aware that the infection could be transmitted through breast-feeding.
- About 87% of the respondents were aware of the potential benefits of consistent and correct condom use in prevention of transmission of HIV/ AIDS.
- More than 76% of the respondents were aware that having one faithful and uninfected sex partner could prevent the transmission. A significantly larger portion of the respondents (70%) were aware that sexual abstinence played an important role in prevention of transmission compared to other modes of transmission.

Knowledge that the HIV infection cannot be transmitted by mosquito bites and sharing of meals with an infected person and that a healthy looking person may be suffering from HIV/ AIDS was relatively low in Goa.

Future strategies to address the gaps and response to the evolving epidemic inter alia include:

Innovative flex print displays, high swinging balloons, promoting folk media, magic shows, etc and also leveraging unconventional media like road shows, merchandise items such as mugs, wobblers, T-shirts, etc. in a bid to create community contact.

Strengthening adolescent education and behavioural change communication amongst the educational institutions, by having more interactive two way programmes.

Scaling up of School AIDS Education Programme to cover all the Secondary and Higher Secondary Schools in Goa in collaboration with SCERT.

2.10.1 Condom Promotion

Condom promotion strategies aim to position condoms for dual benefits of prevention of STD including HIV and prevention of unwanted pregnancies. Communication messages towards normalization of condom are developed and disseminated to the population using varieties of media vehicles. The TI sites have mid-media activities like street plays and condom demonstrations to ensure correct and consistent use of condoms. Goa SACS has tied up with Hindustan Latex Ltd; (HLL) for Social Marketing of condoms

2.10.2 Website

The Goa State AIDs Control Society launched its own website on the eve of the world AIDs Day i.e. on 1st December 2008. The address of the website is <http://www.goasacs.nic.in>. It provides updated information in detail of all the activities carried out by the Goa SACS. All reports, advertisements, statistics, publications, expression of interests, etc., are uploaded on the website.

2.11 Targeted Interventions (TIs)

Since particular groups of people such as female sex workers (FSWs), men having sex with men (MSM), truckers, tourism related workers, migrants, street children, etc. are more vulnerable than others to the HIV/ AIDS epidemic, direct intervention programmes among these groups through a comprehensive and integrated approach beginning from behaviour change communications, counseling, providing health care support, referrals, condom promotion and creating an enabling environment that will facilitate behaviour change have been undertaken through NGOs funded by Goa SACS since October 1999.

During the year 2012-13 in all, 16 Targeted Intervention (TI) projects have been funded by Goa SACS. Out of 16 TIs, six projects for Female Sex Workers (FSWs), three for Men having Sex with Men (MSM), two each of Truckers and Injecting Drug Users (IDUs), one group covering the Core Composite groups and two projects covering Migrants. Same projects have been continued for the year 2013-14.

The Behavioural Surveillance Survey among FSWs undertaken by Government of India in the red-light area of Baina (which was demolished in June 2004) has shown that there has been significant rise both in awareness levels and condom usage because of the interventions undertaken. The demand for condoms had also steadily increased over the years. However, with demolition of the red light area most of the FSWs either have gone to their native places or moved to other places in Goa. In view of this, the NGO implementing the TI project for FSWs is currently finding it rather difficult in mapping their current places of operation and providing requisite services for prevention/ control of HIV/ AIDS.

Dealing with HIV is much more than just creating awareness or use of condom. Since the awareness levels are already very high in Goa, we need to go beyond awareness and bring about attitudinal and behavioural change, empowerment, negotiating skill and creation of enabling environment that will facilitate behaviour change. For effective

implementation of the targeted intervention, efforts are being made for capacity building of NGOs through regular workshops, training programmes, exposure visits, etc.

In order to identify the locations where the high-risk populations are concentrated and to estimate their number, the International Institute of Population Sciences, Mumbai had undertaken a mapping exercise of high-risk populations in Goa in February 2004. Subsequently, in 2008, India Health Action Trust in association with Karnataka Health Promote Trust, Bangalore has conducted mapping exercise for estimation of high-risk population. The allocation and fixing of targets for TI projects is done based on the above estimates.

Table No. 34: TI - NGO coverage and achievements during 2007-08 to 2013-14

High Risk Groups	No. of TIs	Coverage	Achievements						
			2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
FSW	06*	3000	760	3364	3850	3028	3269	3235	3892
MSM	03	2300	900	2500	2500	2811	2382	2399	2873
IDU	02	750	300	550	650	632	700	729	744
Core Composite	01	1000	0	1000	1000	996	1096	1035	1008
Migrants	02	20000	0	20000	25000	25000	33220	14981	24219
Truckers	02	10000	0	10000	10000	10000	19043	24863	27189

Table No. 35: Grants sanctioned to TI - NGOs by Goa State AIDS Control Society, 2013-14

2.12 Care, Support and Treatment (CST)

- Antiretroviral Therapy (ART) Centre
- Two Link ART Centres Plus (LAC+)
- Two Link ART Centres (LAC)
- Care Support Centre (CSC)

2.12.1 Anti Retroviral Therapy (ART) Centre

Free anti retroviral drugs are being provided at the ART Centre, Goa Medical College since April 2005. To start with, the beneficiaries comprised of symptomatic patients with CD4 count of less than 200 but at present ART is initiated as early as CD4 < 350. During the period from April 2005 to December 2013, 5930 patients were screened for ARV eligibility and 3099 patients were put on ART out of which 1928 are alive and on ART. Stavudine has been phased out of the programme and combination of Zidovudine, Lamivudine and Nevirapine is being used as 1st line ART. All patients attending ART centre are screened for Opportunistic Infections like TB, Herpes Zoster, PCP etc and all HIV/TB co-infected patients are started on ART irrespective of their CD4 count. Existing ART center has been upgraded to ART Centre Plus with availability of alternate 1st line and 2nd line treatment. State AIDS Clinical Expert Panel (SACEP) meets every week to screen resistance cases.

2.12.1.1 Link ART Centres Plus (LAC+)

The existing Link ART Centres at District Hospital (Asilo), Mapusa and Hospicio Hospital, Margao have been upgraded to Link ART Centres Plus wherein facility for collection of CD4 samples and ART drugs are made available for PLHIVs.

2.12.1.2 Link ART Centres (LACs)

Two new Link ART Centres have been established at Cottage Hospital, Chicalim and Sub District Hospital, Ponda for the convenience of PLHIVs wherein ART drugs are made available.

2.12.2 Care Support Centre (CSC)

A Care Support Centre (CSC) “**Vihaan**” has been set up at St. Cruz for establishing the linkages of PLHIVs with various service providers and to assist the ART Centre in tracking the missing /lost to follow-up patients.

Table No. 36: Number of patients screened/treated at ART Centre, April 2005 to December 2013

1.	Number of patients screened for ARV eligibility	
	1.1 Adult males	3259
	1.2 Adult Females	2287
	1.3 TG	7
	1.4 Children (<14 years)	377
	1.5 Total	5930
2.	Number of patients enrolled for ARV treatment	
	2.1 Males	1765
	2.2 Females	1165
	2.3 Children (<14 years)	166
	2.4 TG	3
	2.5 Total	3099
3.	Number of patients who discontinued	
	3.1 Died	676
	3.2 Transferred out	0
	3.3 Stopped treatment	31
	3.4 Lost to follow-up	169
	3.5 Opted out	13
	3.6 Total	889
4.	Total number of patients alive and on ART	1928

Table No. 37: Taluka-wise AIDS patients treated at ART Centre, April 2005 to December 2013

Taluka	< 14		15 - 29		30-49		50 & above		Total		
	M	F	M	F	M	F	M	F	M	F	Total
Pernem	1	1	1	6	46	13	2	4	50	24	74
Bardez	18	12	25	37	189	118	28	11	260	178	438
Tiswadi	5	11	20	42	187	97	29	18	241	168	409
Bicholim	0	1	3	3	51	28	7	4	61	36	97
Sattari	1	1	4	1	26	11	7	5	38	18	56
Ponda	7	7	11	13	115	59	16	3	149	82	231
Mormugao	24	10	46	72	331	196	49	24	450	302	752
Salcete	30	17	22	45	257	162	41	28	350	252	602
Sanguem	8	2	6	8	52	32	7	5	73	47	120
Quepem	1	1	5	4	34	24	4	5	44	34	78
Canacona	0	3	1	3	23	20	7	0	31	26	57
Others *	1	6	2	12	105	37	13	9	121	64	185
Total	96	72	146	246	1416	797	210	116	1868	1231	3099

*Includes patients from the States of Maharashtra, Karnataka, Andhra Pradesh and U. P.

Table No. 38: Sex-wise HIV+ cases registered at ART Centre, 2005 to 2013

Year	HIV +	New PLHA registered				Ever started on ART				Alive and on ART				Reported deaths			
		M	F	TS/TG	T	M	F	TS/TG	T	M	F	TS/TG	T	M	F	TS/TG	T
2005	1070	414	285	0	699	148	64	0	212	146	63	0	209	5	0	0	5
2006	1015	407	292	0	699	155	88	0	243	80	59	0	139	45	21	0	66
2007	1094	437	302	0	739	176	66	0	242	92	31	0	123	51	21	0	72
2008	1019	441	305	1	746	188	120	0	308	120	92	0	212	39	12	0	51
2009	959	437	329	0	766	225	142	0	367	158	103	0	261	49	30	0	79
2010	821	411	280	1	691	252	176	0	428	156	115	0	271	73	34	0	107
2011	630	320	249	3	569	207	147	1	355	85	107	1	193	59	28	0	87
2012	554	318	211	2	529	245	184	1	429	115	129	0	244	78	30	1	109
2013	532	283	207	0	490	265	248	1	514	125	150	1	276	68	32	0	100
Total	7674	3463	2460	7	5930	1861	1235	3	3099	1077	849	2	1928	467	208	1	676

Table No. 39: Month-wise HIV+ cases reported at ART Centre, 2013

Month	HIV+	New PLHA registered				Ever started on ART				Alive and on ART				Reported deaths			
		M	F	TS/TG	T	M	F	TS/TG	T	M	F	TS/TG	T	M	F	TS/TG	T
January	42	23	15	0	38	22	17	0	39	21	7	0	28	2	5	0	7
February	40	24	17	0	41	20	14	0	34	1	1	0	2	7	4	0	11
March	47	31	18	0	49	16	17	0	33	19	10	0	29	6	0	0	6
April	50	28	21	0	49	29	25	0	54	9	20	0	29	4	3	0	7
May	44	28	22	0	50	18	10	0	28	7	10	0	17	4	1	0	5
June	33	25	15	0	40	32	25	1	58	21	11	1	33	6	5	0	11
July	61	17	12	0	29	29	31	0	60	24	22	0	46	4	2	0	6
August	51	20	21	0	41	24	22	0	46	9	16	0	25	7	1	0	8
September	41	27	16	0	43	20	25	0	45	4	18	0	22	4	0	0	4
October	50	28	18	0	46	21	24	0	45	12	16	0	28	7	4	0	11
November	35	16	23	0	39	20	23	0	43	5	15	0	20	10	4	0	14
December	38	16	9	0	25	14	15	0	29	-7	4	0	-3	7	3	0	10
Total	532	283	207	0	490	265	248	1	514	125	150	1	276	68	32	0	100

2.12.3 CD4 blood count facility

For management of HIV/ AIDS patients, CD4 count facility has been established at Goa Medical College since July 2001. With the setting up of ART centre at Goa Medical College on an average 6 to 8 patients are screened per day for CD4 blood count to verify and assess the immune status of a HIV patient. It is proposed to have additional CD4 testing facilities in Goa keeping in view the expansion plan of the ART Centres and also increasing number of patients on ART.

Table No. 40: Year-wise cases of CD4 blood count, 2001 - 2013

Activity	2001 (From March)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total (Mar '01 to Dec '13)
1. No. of New cases	100	98	91	112	587	717	708	818	696	627	495	426	405	5880
2. No. of Old cases for repeat of counts	8	34	30	35	187	650	999	1468	1980	2754	3199	3343	4182	18869
3. No. of cases performed within 6 months of previous estimation.	7	4	2	1	28	22	20	63	45	21	6	4	0	223
4. No. of tests performed free of charge	-	1	-	5	660	1358	1537	2276	2414	3307	3689	3768	4579	23594
5. No. of tests performed on payment	108	131	121	142	54	9	168	12	8	6	8	4	11	782

2.12.4 Management of Opportunistic Infections (OIs)

The facilities for the management of the Opportunistic Infections are provided at Goa Medical College Hospital at tertiary level and two District Hospitals at secondary level. The Goa SACS supports all the activities undertaken by Goa Medical College Hospital and the hospitals under Directorate of Health Services for OI management. There is absolute co-ordination between the National TB Control Programme, TB and Chest Diseases Hospital and Goa SACS when it comes to management of TB-HIV co-infections. Monthly meetings of Goa SACS and Goa State TB Control Society are conducted for proper co-ordination and management of data.

2.12.5 Post Exposure Prophylaxis (PEP)

Goa SACS conducts training sessions and Continuing Medical Education (CME) programmes for Government as well as private sector medical professionals and others in Universal Work Precaution and Post Exposure Prophylaxis (PEP). Department of AIDS Control guidelines are provided to the participants during the training programme. Health Care Providers working in GMC having exposure to infections receive PEP from ART Centre, Goa Medical College Hospital. However, for those under Directorate of Health Services, provision is made for PEP under emergency drugs budget, from State Government funds.

2.13 Work Place Interventions

For strengthening the world of work response to HIV/ AIDS both in the formal and informal sectors a comprehensive work plan has been drawn in close collaboration with the International Labour Organisation, New Delhi and is being implemented w.e.f December 2004 in Goa. GSACS is working in collaboration with Goa Chamber of Commerce and Industries in this regard. In all, eleven industrial organizations have taken the initiatives for the intervention.

2.14 Training

Under NACP-III, training programme on HIV/ AIDS/ STD prevention and control for Specialists, Medical Officers and other paramedical staff have been organized. During 2013, 212 Doctors, 145 Nurses, 238 Lab. technicians have been trained. 236 Doctors and paramedical staff of NRHM health facilities were also trained. Training manuals for Specialists, Medical Officers, Nurses, Health Workers, Standard operative procedures, HIV Testing Manual, Counseling, etc. developed by NACO have made available to them during the trainings. Some of the doctors and

paramedical staff were also sent to other Centres of Excellence for training in their field of specialization. GSACS has also trained 175 PRIs, 120 NYK Youth, 240 police personnel, 136 NGOs and 130 Anganwadi workers during the year.

2.15 Social Security Measures for PLHAs

Government of Goa has extended the benefit of financial assistance under Dayanand Social Security Scheme (DSSS) through Directorate of Social Welfare to HIV/AIDS patients. The State Government has also extended the benefit of Antodaya Anna Yojana (AAY) scheme to HIV positive people who are in the BPL list of the State through Directorate of Civil Supplies and extended 50 % concession to PLHAs for traveling by KTCL buses.

2.16 Strategic Information Management System (SIMS)

Introduction

The National AIDS Control Programme has completed its third phase (2007-12) of activity. The first two phases of activity (NACP I 1992-2001 and NACP II 2001-2007) undertook the ambitious objective of laying down the infrastructure required for providing comprehensive services for both Prevention, Care & Treatment. In phase III, National AIDS Control Organization (NACO) sought to systematically scale up the service delivery. India through its National AIDS Control Programme stands committed to Millennium Development Goal (MDG) of reversing the spread of HIV/AIDS by 2015.

To accomplish these goals, NACO plan to decentralize the management of HIV/AIDS control activities, giving greater responsibilities to the State and District level, while emphasizing its own role to coordinate, guide, monitor and facilitate sharing of best practices and innovations across the SACS programmes. This approach requires significant investment in capacity building of both managers and technical staff at the State level and strengthening the SACS' ability to monitor the performance of their programme in terms of addressing the needs of the HIV epidemic in their State.

The epidemiological situation of spread of HIV infection in India though does not show dramatic upsurge, the estimated number of PLHA are high and still keeps India in 3rd position worldwide. There are state specific variations in the profile of epidemic with high prevalence rate reported in southern and north-eastern States. However, even the low HIV prevalence States are also characterized by the presence of high risk pockets with potential for increased spread of

epidemic in these States. The variation in terms of cultures, customs and behaviours across states of India poses additional challenge to the HIV preventions programs. As a result, an increasing commitment can be seen in a growing number of partners and stakeholders who are getting involved in a range of activities and programs.

Tracking trends over time to improve our understanding of the epidemic, of risk behaviours and factors that are driving it is extremely important. Strong monitoring and evaluation systems have capacity to track these trends and factors and strengthen the evidence based programming. Such system once established and functional would guide program managers to focus efforts on interventions that have greatest impact on the HIV epidemic.

Adopting Strategic Information Management (SIM) as a NACO objective

The decentralized model for management of NACP III required a robust and responsive system of collecting and analyzing data. Data was needed for two critical management functions:

1. tracking of the epidemic (i.e. to understand the magnitude, trajectory and potential for spread of HIV); and
2. tracking the performance of the programme (i.e. to measure achievements against targets and to identify under performing implementation units which require more support and supervision)

During NACP-II, the amount and types of information being collected grew substantially. However, much of these data were under utilized due to the lack of staff and the need for more skills development for existing staff. People also recognized that the multiple sources of data should be synthesized, together to develop a more comprehensive and integrated understanding results of both programmes and their impact on the epidemic.

To change the way monitoring & evaluation (M&E) is conducted during NACP III, a number of key innovations have been put into place. First, M & E activities have been integrated into the broader Strategic Information Management Unit (SIMU) established at both State and National levels. The SIMU brings together M & E, surveillance and operations research. The term SIMS, refer to the transformation of data from all these sources in their raw form into information that can be applied to decisions made about programme management or planning. This process is

strategic because data from multiple sources are assessed in terms of quality and relevance to develop a more systematic understanding of what the information is saying about the programme.

Establishment of SIMU is seen as a step towards intensifying efforts on improving data quality from all data source. Having clear roles and responsibilities defined would facilitate greater accountability and better quality of data and information use. Additionally, using information from various data source systematically through triangulation would lead to better interpretations and programmatic decisions.

In an effort to maximize the use of limited resources and to reduce the administrative burden of multiple partners working simultaneously on the response to HIV/AIDS, in each country there should be **(i) one** HIV/AIDS action frame work that provides the basis of coordinating the work of all partners **(ii) one** national AIDS coordinating Committee with a broad based multi sector mandate and **(iii) one** country level monitoring and evaluation system.

The Three ones

The intent of the “Three ones” is to support coordination, it does not intend to restrict innovation or limit the ability of implementers to tailor their response to meet local needs. The key concept is for all SACS to maintain a minimum set of standard indicators which are augmented by a few additional state specific requirements for programme monitoring, as needed.

At the SACS level, it is important that State level partners are involved in State level planning and the SACS coordinates the efforts of partners working in the State. This includes ensuring all partners regularly report programme monitoring data to the SACS in the standardized formats. In turn, SACS SIMU should analyze and incorporate the data from non-government implementation units into the overall reports for the State to have a more complete picture of the status of the epidemic and response to HIV/AIDS.

The SIMS web based software was developed by Vayem Tech and was launched by NACO on 26th August 2010. Vayem Tech in association with Indian Institute of Hardware Technology (IIHAT) has imparted training to all Reporting Units (RUs). Thereafter, all RUs started reporting the data through SIMS software as well as CMIS format. Refresher trainings were conducted by Goa SACS for all the concerned staff of RUs twice and all staff of the RUs are now well trained. During 2013-14, the reporting by ICTCs, STD clinics and TI-NGOs is 100%. Efforts are being made to achieve 100% reporting by Blood Banks.

3. Conclusion

HIV/AIDS is immensely preventable provided each one of us recognizes it as an important public health and developmental threat and each of us respond to our maximum capacity. The main obstacles that undermine effective response for allowing the AIDS disease to spread are:

- Widespread denial and complacency - the attitude that AIDS only happens to some one else, somewhere else and not to us - leading to low level of risk perception.
- Myths and misconceptions about its cause, spread and methods of prevention.
- Absence of either a preventive vaccine or cure.

HIV/ AIDS is still in early stages in Goa and effective responses are possible now. Unless more is done today and tomorrow and the epidemic is left to run its natural course, it is sure to cause devastation on an unprecedented scale and would reverse the achievements of the last few decades. One of the biggest lessons learnt globally as well as in the country is that responses should not wait for HIV/ AIDS cases to soar. Policies should not wait till crucial prevention and care information and services are needed. Another important lesson learnt is that a multi-sectoral response must be designed in the context of the overall development strategy to ensure its sustainability and effectiveness. There is no room for complacency. Government of Goa is fully committed to prevent the spread of HIV/ AIDS at the initial stage itself. But Government alone cannot do it. It is everyone's responsibility. Making a token towards one's own safety is not enough. People should effectively respond to the threat that the community is facing. NGOs and private sector have an equally critical role to play in an effective response. The challenge is to identify appropriate, locally relevant interventions and reach out to the people. By following a concerted policy and an action plan that emerges out of it, Government hopes to control the epidemic and slow down its spread in the general population within the shortest possible time.

ACRONYMS

AIDS	Acquired Immuno-deficiency Syndrome
ANC	Antenatal Clinic
ART	Anti Retroviral Therapy
BCSU	Blood Component Separation Units
CVM	Condom Vending Machine
CCC	Community Care Centre
CSMP	Condom Social Marketing Programme
CST	Care, Support & Treatment
FSW	Female Sex Worker
GIPA	Greater Involvement of People Living with HIV/AIDS
GSBTC	Goa State Blood Transfusion Council
HRG	High Risk Group
HLFPPT	Hindustan Latex Family Planning Promotion Trust
HSS	HIV Sentinel Surveillance
HIV	Human Immuno-deficiency Virus
ICTC	Integrate Counselling and Testing Centre
IDU	Injecting Drug User
IEC	Information, Education & Communication
KABP	Knowledge, Attitude, Belief & Practice
LAC	Link ART Centre
LWS	Link Worker Scheme
MOHFW	Ministry of Health & Family Welfare
MSM	Men who have Sex with Men
MTCT	Mother to Child Transmission
NACO	National AIDS Control Organisation
NACP	National AIDS Control Programme
NRHM	National Rural Health Mission
NGO	Non Governmental Organisation
NVP	Nevirapine
OI	Opportunistic Infection
PCR	Polymerase Chain Reaction
PEP	Post Exposure Prophylaxis
PLHA	People Living with HIV/AIDS
PPTCT	Prevention of Parent to Child Transmission
PPP	Public Private Partnership
RRE	Red Ribbon Express
RRC	Red Ribbon Club
RTI	Reproductive Tract Infection
RNTCP	Revised National Tuberculosis Control Programme
SACS	State AIDS Control Society
SIMU	Strategic Information Management Unit
SMO	Social Marketing Organisation
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
TI	Targetted Intervention
TSG	Technical Support Group
TS/TG	Trans Sexual /Trans Gender
UNAIDS	Joint United Nations Programme on HIV/AIDS

SERVICES/ FACILITIES FOR PREVENTION/CONTROL OF HIV/AIDS IN GOA.

⌘ Integrated Counseling and Testing Centres at:

- Goa Medical College, Bambolim
- Tuberculosis and Chest Diseases Hospital, St. Inez, Panaji
- Hospicio Hospital, Margao
- North Goa District Hospital, Mapusa
- Cottage Hospital, Chicalim
- CHCs at Canacona, Curchorem, Pernem and Valpoi
- Sub District Hospital, Ponda and PHC, Candolim.

⌘ **Facility Level Integrated Counseling and Testing Centres at:** All Primary Health Centres and Urban Health Centres under Directorate of Health Services.

⌘ **CD4 cell count testing facility of HIV/AIDS patients is available** at Goa Medical College (Dept. of Microbiology), Bambolim.

⌘ Sexually Transmitted Diseases/ Infections related services at :

- STD clinic, Baina, Vasco
- STD clinic, Hospicio Hospital, Margao
- STD clinic, North Goa District Hospital, Mapusa
- Skin and V.D. Dept., Goa Medical College, Bambolim.
- All Health Centers under Directorate of Health Services

⌘ **Free drugs for treatment of Opportunistic Infections** in HIV/ AIDS patients in North Goa District Hospital, Mapusa; Hospicio Hospital, Margao; Goa Medical College, Bambolim.

⌘ **Prevention of Parent-to-Child Transmission of HIV infection during pregnancy:** Programme includes counseling, testing and drug administration to HIV positive pregnant ladies & Syrup NVP to babies born to HIV+ve positive mothers at

- OBG Dept., Goa Medical College, Bambolim
- Hospicio Hospital, Margao
- North Goa District Hospital, Mapusa
- Sub District Hospital, Ponda(in process)

⌘ **Early Infant Diagnosis:** As early as six weeks, babies born to HIV positive mothers can be tested to rule out HIV infection at the below mentioned centers.

- Goa Medical College, Bambolim
- North Goa District Hospital, Mapusa
- Hospicio Hospital, Margao
- Cottage Hospital, Chicalim

⌘ **Antiretroviral Treatment Centre** at Goa Medical College (Opp. Paediatric OPD): Free antiretroviral drugs for eligible HIV +ve adults and children.

⌘ **Facility Integrated ART Centre** at Hospicio Hospital for South Goa District (in process)

⌘ **Link ART Centre Plus:** North Goa District Hospital, Mapusa and Hospicio Hospital, Margao.

⌘ **Link ART Centre:** Sub District Hospital, Ponda and Cottage Hospital, Chicalim.

⌘ **Post Exposure Prophylaxis (PEP)** for Health Care Providers of GMC is available at ART Centre, GMC, Bambolim and for those in other Government Health Care facilities it is available in the respective centres.

⌘ **Availability of free condoms** at all health facilities for prevention of STIs including HIV/AIDS and pregnancy.

⌘ **Targeted Intervention (TI)** projects are undertaken through the following NGOs funded by Goa SACS to create awareness among High Risk Groups and Core Groups.

Life Line Foundation, Sai Life Care, Desterro Eves Mahila Mandal, Positive People, Rishta, Community Resource Foundation, Presentation Society, Humsaath Goa & Zindagi Goa.