PREAMBLE

A request has been received by the President of the Institute of Actuaries of India (IAI) from NACO (National AIDS Control Organisation) under Department of AIDS Control (DAS) expressing an immediate requirement of conducting an investigation into the PLHIV (People Living with HIV) late in the month of June 2013. The IAI has responded favourably to the request by keeping in view of the need and importance of such an investigation in understanding medical requirements of the PLHIV group. The Research department has undertaken the investigation and prepared the report in a very short span of time with a randomly collected data from ART (Antiretroviral Therapy) centres spread across the country. It is understood that, most of the ART centres are yet to be established in respect of collection, maintenance and management of data and all data columns required for the investigation has been collected manually from ART centres and compiled by NACO on a war footing basis. Under these limitations, the report needs to be read with the following key points in mind:

I. A report first of this kind in India to understand medical needs of PLHIV group
II. The investigation has been completed within the minimum number of days available and undergone limited review process before delivery.
III. The credibility of results emerged out of data and suggestions are subject to validation of assumptions used in the report.
IV. The Institute is not in favour of using any data indicators of this report by any one for any commercial use and takes no responsibility otherwise.
V. The investigation and report is an attempt to derive some valuable insights into the demographic profile of PLHIV lives and their medical needs which in turn may form a basis and beginning to develop medical insurance product/s which otherwise are not available in the Indian market.

BACKGROUND

Reference to a writ petition (civil) No 3145 of 2011 in the Hon. High Court of Delhi by Rajeev Verma Vs Union of India and Others regarding the Insurance coverage of people living with HIV. The NACO under DAT, Ministry of Health & Family Welfare, Government of India has constituted a working group of 16 members on 26th September 2012 on the basis of the above directive from the court with representations from NACO, IRDA, Life Insurance Council, General Insurance Council, IAI, UNDP India, ICW (International Community of WLHIV, Asia Pacific) and Indo-German Social Security program. Meetings of the Working Group held on 15th Mar'13 and 18th Jun'13 and deliberated issues related to data and investigations in order to understand morbidity and mortality related factors of PLHIV group and has resolved that, data may be collected randomly from different ART centres spread across the country in appropriate formats in order to serve the purpose of conducting basic level of required investigations and to approach any professional agency/ consultancy/ working groups/ experts in the area of research for generating an investigation report.

DATA

NACO has collected data from its 132 ART centres spread across the country on a random basis from patients visited the centre during the first fortnight of Jun'13. The data format carries 99 data fields with details of state, district, ART registration and other details, Treatment centres/ references, HIV infection details of self and family, demographic references, financial and medical history. Data received in excel format shown 5591 entries. Important among demographic references include; Gender, Age, Employment status, smoking status, Marriage status and Education level.

HIV Infection date and severity level, date of registration in ART centre, treatment centres, reason for infection, purpose and frequency of visiting ART centre are important among data fields representing disease.

Hospitalisation related data fields include number and cost of hospitalisation for last one year for the patient and family, number and cost of last 3 hospitalisation for self, HIV infected spouse and/or children and its split into details regarding components of hospitalisation.

Preparation of data required for the investigation has been quite challenging mainly due to duplication, inconsistencies and gaps. All these issues were resolved to the extent of conducting a base level investigation and resulted into removing 2632 entries found as either duplicates or inconsistent or inappropriate. This means, sample data is purified to the extent of removing around 47% of entries to end up the size as 2959, however, the spread of data remains close to the original sample size. The re-shaping of data is recorded in the audit trail in full.

Due to large number of data fields, preparation of summary tables is divided into two parts. First part for demographic profile and second part for medical experiences.

ASSUMPTIONS

Following assumptions are used for data cleaning, generation of results and interpretation.

a) Data record sources of NACO through ART centres are updated, accurate and credible.
b) Errors observed are due to issues related to manual intervention, system errors, compilation issues and other technical and soft skill issues prevailing within the system.
c) Data from each of the ART centres represent a cross section of PLHIV registered
d) Size of data collected from each of the ART centres represent the counts as per the weightage applicable for the respective centre in relation to other ART centres
e) The random sampling made by NACO in respect of state, district and ART centres represent a cross section of underlying data and all proportions arrived from the sample data is fairly represent the underlying trends in respect of PLHIV population.
f) Date of interview>= Date of registration of ART>= Date of infection of HIV (self)
g) Infecting HIV to a person need not necessarily lead to infecting his/her spouse

h) The HIV infected spouse category resembles self-infected group by all its characteristics for medical treatment
i) Children of HIV infected person/ couples need not necessarily get HIV infected
j) Hospitalisation beyond 12 times a year for a patient is not possible.
k) The single/ unmarried category cannot have spouse and children
l) Among multiple records of same life showing date of infection, the date close to date of registration in ART centre is more likely
m) Where spouse is infected and no date of infection, date of infection for self is assumed for spouse as well.
n) Maximum number of visits to ART centre in a year is 28.
o) Using of information in the investigation report for any purpose is a matter of judgement and interpretation of individuals/ institutions/ business houses/ or any organisations.

FINDINGS

Results are represented as proportions with a view of assumptions (c), (d) and (e) above. Tables generated by summarising different combinations of characteristics of data are converted to proportions to the overall data sample used to understand the underlying trends of the population. All tables prepared for the investigation are placed in **Appendix-I**

DEMOGRAPHIC PROFILE:

1. GENDER AND MARRIAGE STATUS:

Male representation is 55.80% where as females are 43.87%. Presence of 0.34% transgender also shown and is negligible for considering any further split and features. For further proportions where gender is taken as a part, transgender is not taken as a factor.

Men appears more exposed and women more vulnerable to infection as represented by their presence in the data. A feature worth to observe here is the larger proportion (18.55%) of widows among women which may point towards the source of transmission of disease and vulnerability of women to infected husband.

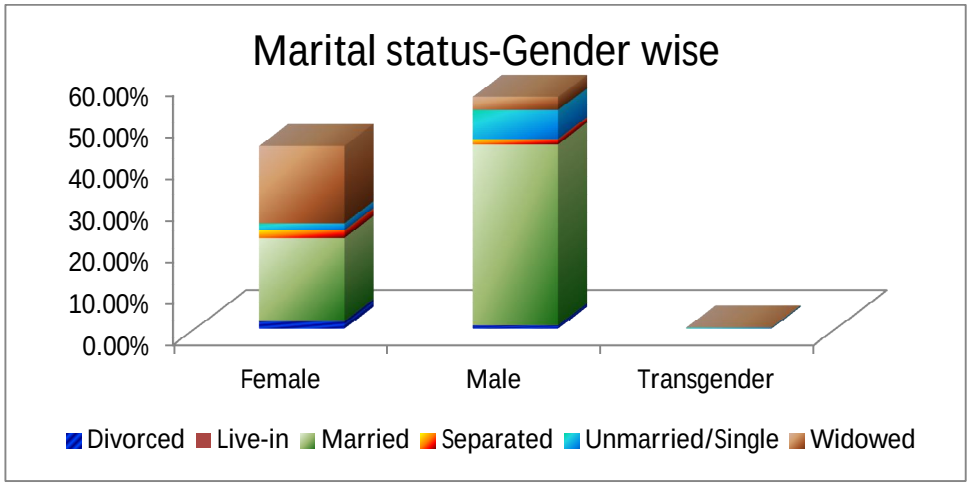

Figure 1

2. AGE GROUPS IN GENDER AND GENDER IN AGE GROUPS

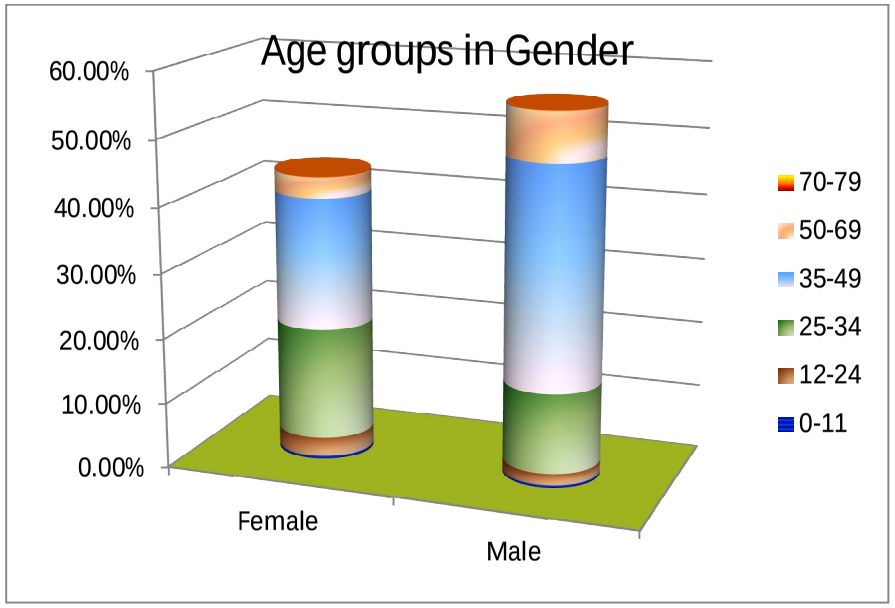

Figure 2

The younger groups 12-24 and 25-34 in female category takes more share in comparison to proportions in the same age bands for men. One of the reasons to explain this phenomenon is the age difference of husband to wife and women's early marriage in relation to men. Women are prone to infection at early stages of their life due to early marriage, lack of awareness and lack of education. A number of social, cultural, economical and educational factors may also need to be analysed to understand this issue better. A total of 54.07% of the total infection falls in the 35-49 age band and clubbing with 25-34 age category it takes to 83.24%. This means, the age group 25-49 holds the key of infected group for male and female categories together as represented below.

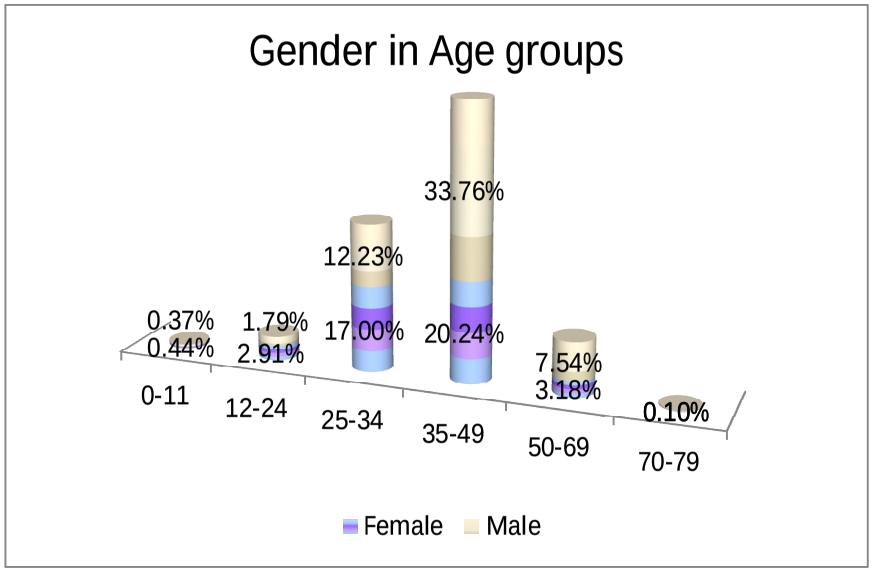

Figure 3

3. EDUCATION LEVEL

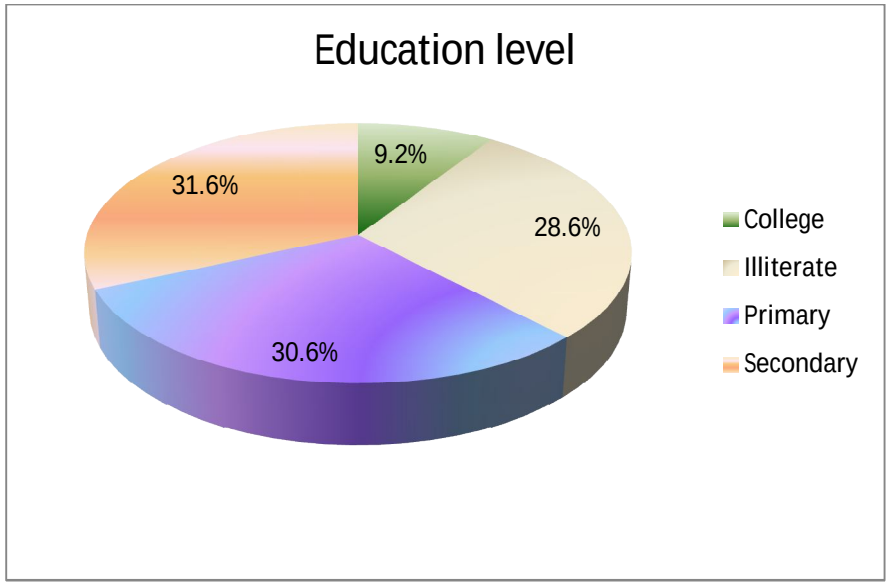

Figure 4

A lot more need to be read from the education levels. 59.2% constituted by Illiterates and primary education holders. Not much share from those who have higher education. Education levels appear to be one of the major influencing factors for HIV infection.

4. SMOKING HABITS

The smoking group among PLHIV is only 16.59% which more or less resembles smoking habit of the general population.

5. EMPLOYMENT STATUS AND INCOME LEVEL

Employed: Unemployed bear the ratio 57: 43 among PLHIV. Average annual income from employment for men is Rs 56, 341 where as for women it is Rs. 36,600 only. Low levels of annual income are obvious in view of most of the infected lives fall in lower education levels.

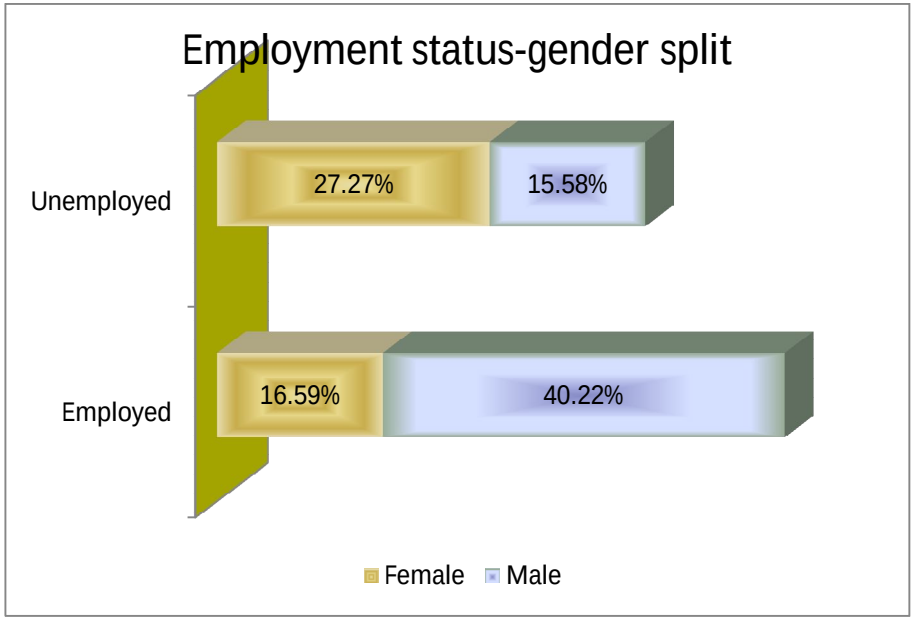

Figure 5

6. INFECTION TO SPOUSE AND CHILDREN

No wonder that 49% of spouse is infected keeping the nature, general awareness and vulnerability of disease among economically, socially and educationally backward class of the population. Infection to children, however, shows a low percentage at 11.04%. Below The proportion is arrived after excluding single/unmarried group from the total.

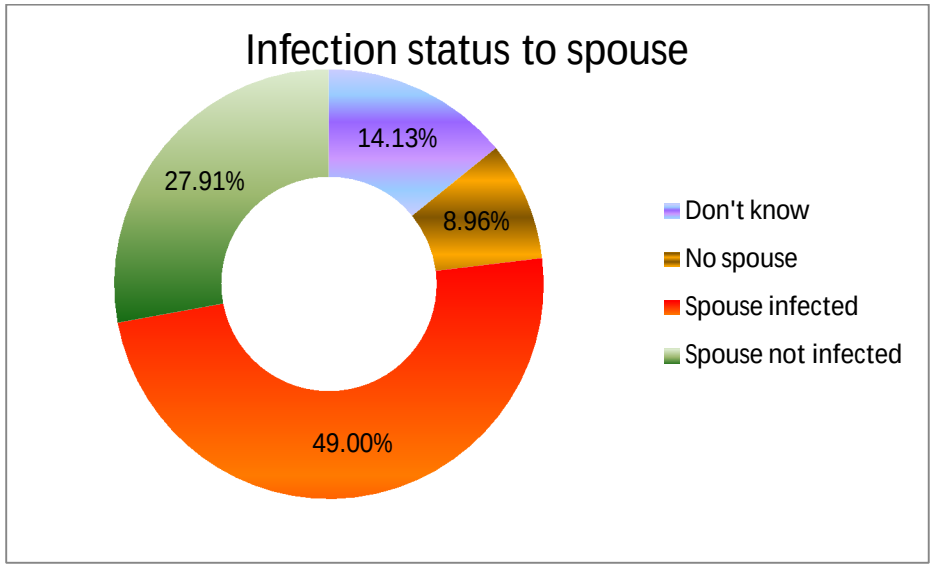

Figure 6

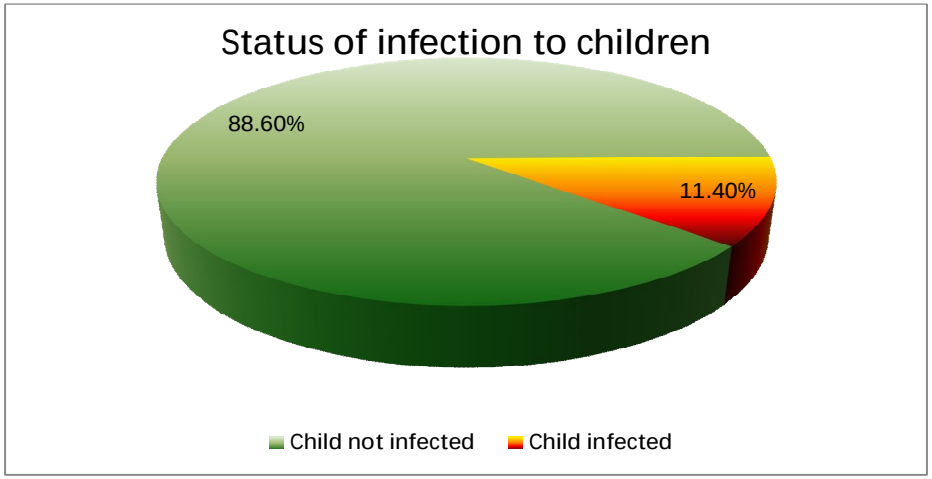

Figure 7

7. ART CENTRE ASSOCIATION AND MEDICAL HABIT

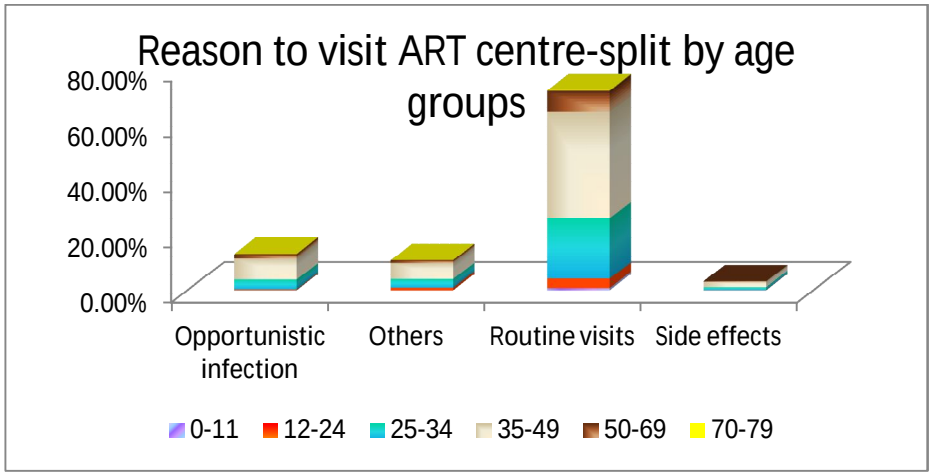

Figure 8

Patients visit ART centres predominantly for their routine check- ups with a proportion of 72.29% of the PLHIV group. Opportunistic infection (13.21%), Others (10.98%) and side effects (3.31%) are other major reasons to visit ART centres.

The above proportions more or less hold in each of the age groups as well as shown below:

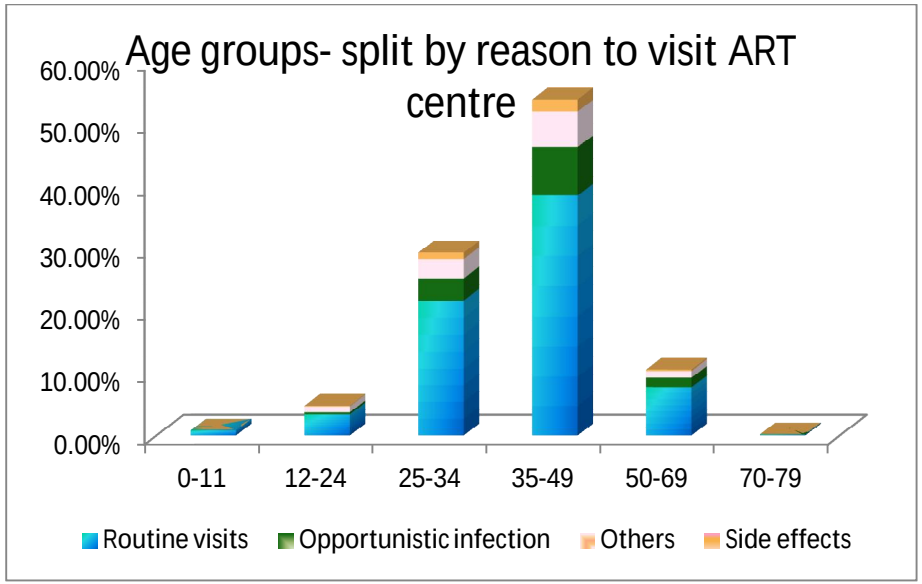

Figure 9

Association of PLHIV with ART centres varies from less than 30 days to more than 5 years. 56.88% of the group associated with the centre for more than 2 years and only 24. 47% associated within one year. This might be an indication of lesser number of patients getting infected during the recent past in comparison with the existed group as a result of awareness programs implemented by NACO and various voluntary organisations.

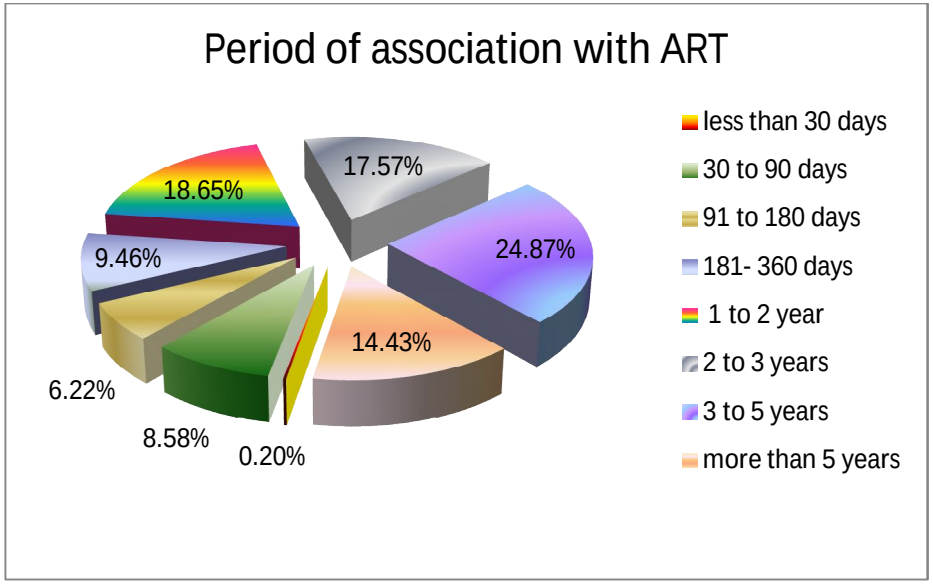

Figure 10

It appears that 50.19% of the PLHIV visit 12 times in a year which may be a routine visit per month. 25.72% of the group visits less than 12 times and look like 2.34% of the group visiting 1 to 11 times uniformly. Rest 24.10% visits more than 12 times in a year. This group may reflect the higher severity level of the infected group requiring more frequent visit to ART centres.

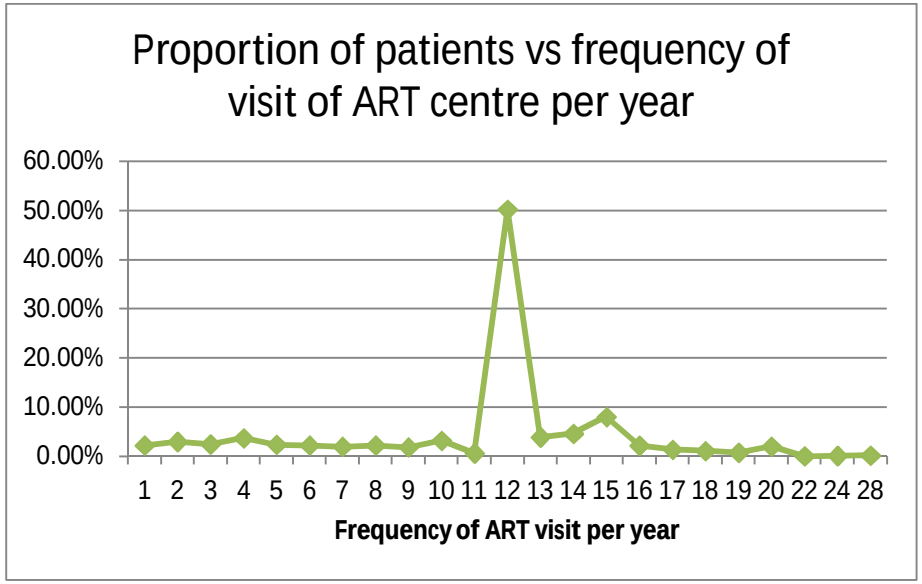

Figure 11

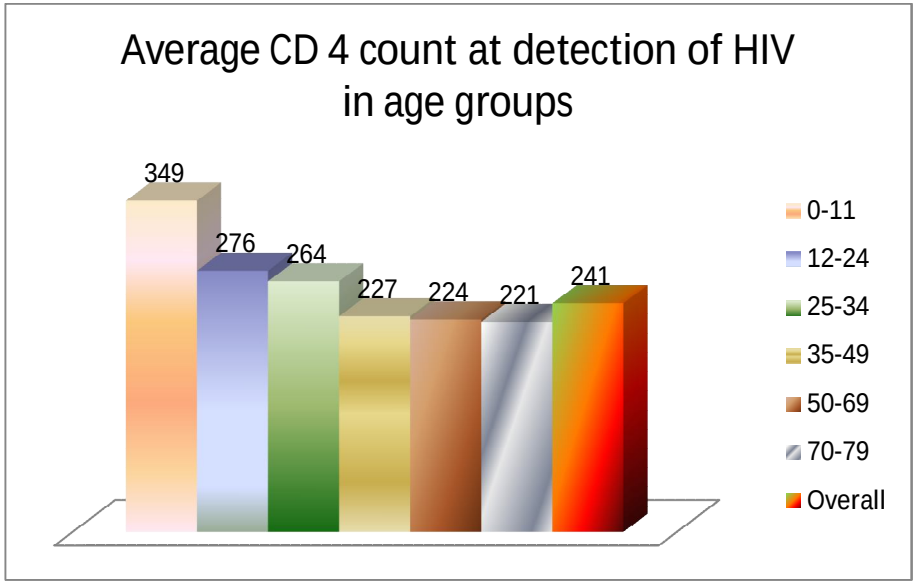

Figure 12

The average CD4 count at the time of detection of infection is in the range of 221-349 and in the decreasing shape starting from the age group 0-11 to 70-79. The overall average CD4 count level is 241. The clinical stages and severity levels as per standards set by WHO (World Health Organisation) are placed in **Annexure-II**

8. HOSPITALISATION AND COST

Private hospital is obviously not a choice for treatment for the PLHIV group. This justifies the need for frequent and/or regular hospitalisation requirements and using relatively cheaper available facilities. There is a small group who earns higher income and preferring to go for better facilities in a private hospital.

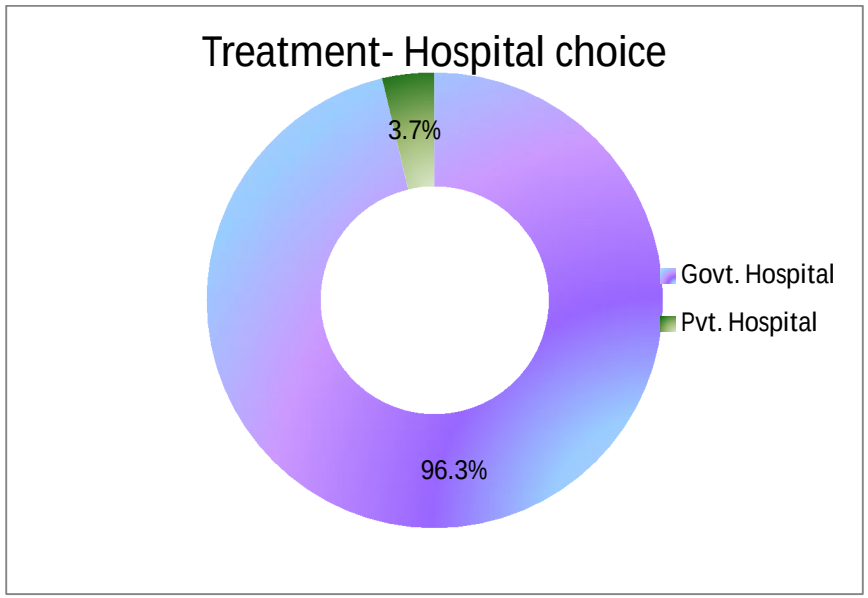

Figure 13

Medical colleges and district hospitals run by the government health department are major medical service providers to PHHIV and constitute 85.3% of the total. Rest use other facilities available including private medical colleges.

44.07% of infected lives hospitalised for one or more times during the last one year, however, the data show only 22.89% of their infected spouse hospitalised. As the data of primary lives show the hospitalisation proportion as 44.07% and infected spouse having a similar demographic profile, there is no reason for the lower percentage of infected spouse hospitalised for treatments. This may be a data issue and for any purposes the proportion of infected spouse hospitalised to be taken as 44.07% itself.

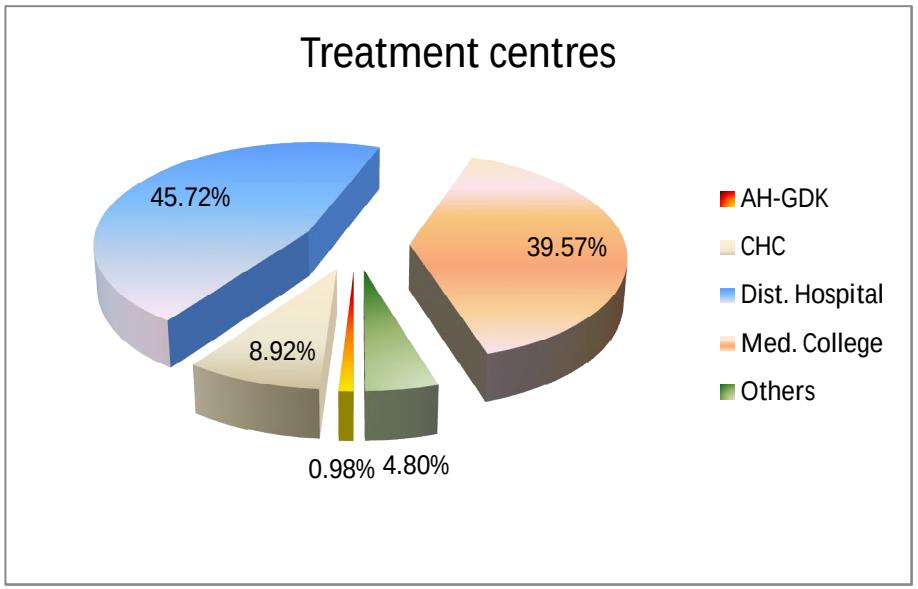

Figure 14

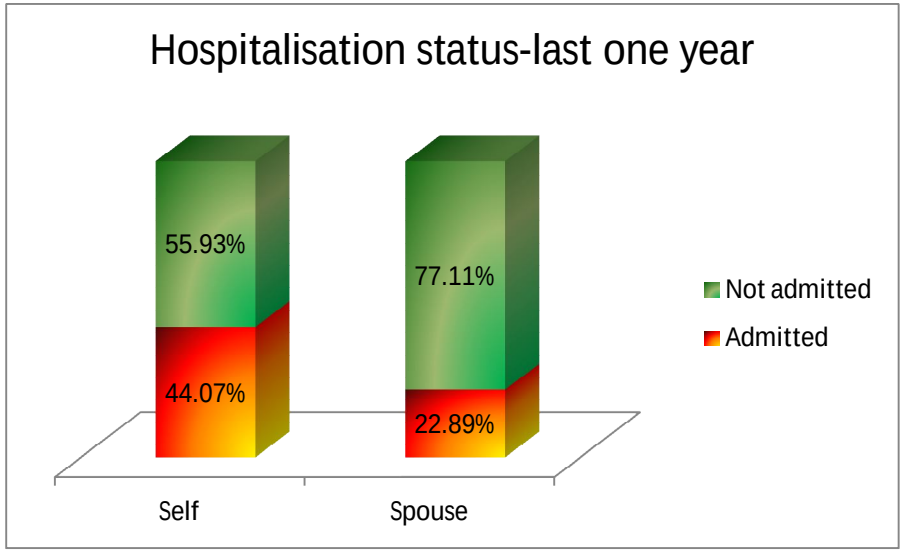

Figure 15

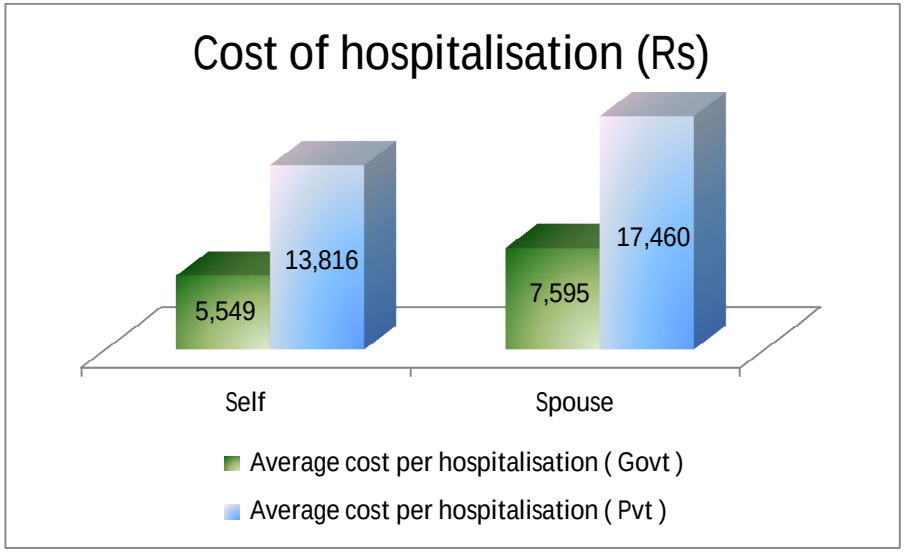

Figure 16

The average cost of hospitalisation in Government hospital and Private hospital differ significantly without reference to the number of days in each of the hospitalisation. The average calculation is on the basis of number of hospitalisation made during the last one year and costs recorded in the data. Though the data show reasonable increase in average cost of hospitalisation of spouse in comparison with similar indicators for self, there is no reason to believe the costs should differ. Infected spouse group also should resemble the infected primary group and hence all other purposes the average cost per hospitalisation to be taken as Rs 5549 and Rs 13816 for Government hospital and Private hospital respectively.

9. ESTIMATION OF COST

The estimation of cost based on the data can only be crude in nature. From the findings above, the following summary is used to arrive at a cost per infected person to meet medical expenses without accounting any medical inflation. There are information related to medical components such as transportation/ ambulance charges, Consultation fees, cost of medicines, costs of tests and other miscellaneous expenses related to a hospitalisation; it has not been considered in view of its inconsistencies beyond corrections. The following summary table used for estimation of cost per head of PLHIV to meet the current levels of hospitalisation expenses.

Percentage depending Govt. hospital for treatment	96.3%
Percentage depending Pvt. Hospital for treatment	3.7%
Percentage of PLHIV group admitted in the hospital	44.07%
Percentage of infection to spouse	49.00%
Percentage of spouse admitted in hospital	22.89%

Percentage of infected spouse admitted to the hospital is only 22.89% whereas 44.07% of infected lives hospitalised. There is every reason to believe that infected spouse resemble demographically to the primary lives and hence 22.89% could be an under estimation of hospitalisation from the data. This proportion may be replaced with 44.07% for calculations.

A similar observation is made on the cost of hospitalisation of self and spouse in Government hospital and Private hospital. Medical cost in respect of primary life in the data appears more complete and consistent than the information related to spouse and, hence average cost related to the primary life may be taken as appropriate for any estimation. Hence for calculation purpose, average costs per hospitalisation are taken as Rs 5549 and Rs 13816 for government hospital and private hospital respectively.

Average cost per hospitalisation (self) in Govt hospital	5,549
Average cost per year (Self) in Private hospital	13,816
Average cost per year (Spouse) Govt hospital	7,595
Average cost per year (Spouse) Private hospital	17,460

The average number of hospitalisation recorded during the last one year for self and infected spouse are 2.3 and 1.7 respectively. However, finding no reason for a lower average number of hospitalisation of infected spouse, the figure 1.7 is replaced with the same average observed for the infected life. i.e., 2.3 times hospitalisation per year.

It would be appropriate to use the calculation to estimate per head cost/ contribution to meet expenses of self and spouse.

[Average number of hospitalisation per year (% availing government hospital *average cost per hospitalisation in government hospital + % availing private hospital* average cost per hospitalisation in private hospital)]* [Percentage of lives hospitalised-self+ percentage of spouse hospitalised*percentage of spouse infected]*

i.e**., 2.3 *(96.3%*5549 + 3.7% *13816)*(44.07%+ 44.07%*49.00%)= 8845** (rounded off to 0 decimals)

This means, a minimum level of contribution @ Rs 8845.00 from each of the member in PLHIV group may be required to meet hospitalisation expenses of PLHIV group and infected spouse over a period of one year without any medical cost inflation.

10. TAKEAWAYS

a) PLHIV infection ratio for Male: Female is 56: 44 (approximate)
b) Age group 25-49 constitute 83% of HIV infected
c) There is a fairly good life time to be completed by the group in the age range 25-49 and medical support to them is important and essential.
d) Smoker: Non-smoker in the ratio 13:87
e) Education has significant influence to HIV infection/ prevention of HIV infection; only 9.2% infected have college and higher education.
f) Employment: Unemployment ratio of PLHIV in the ratio 53:47
g) 49% of spouse infected; child infection relatively small at 11.4%
h) 72.29% visits ART centres for routine check-up and treatment.
i) Around 75% if PLHIV have association with ART for more than one year; 57% more than 2 years; 35% more than 3 years and 14% more than 5 years
j) Around 50% visit ART centres once in every month
k) Average CD4 count in any age group at the time of identifying infection of HIV is 241; means, infected people pushing themselves to the extreme situation to reach out to identify HIV infection
l) The survival of all those members infected in all age groups show an effective ART provided by the centres.
m) Most of the PLHIV depend Government hospitals- Medical college and/or District hospital for their medical support
n) Around 44% of PLHIV hospitalised at least once during the last year
o) Average times of hospitalisation is 2.3 during last year
p) 49% of spouse of PLHIV infected
q) Average cost per hospitalisation in Government hospital is Rs 5550 and in Private hospital Rs 13800
r) Average contribution from a PLHIV member to meet the current level of medical expenses for self and infected spouse without medical inflation around Rs 8850

11. MEDICAL EXPENSES-EXPERIENCE FROM THE MARKET

Reference to the data analysis report regarding Health Insurance experience for the year 2011-'12 published by Insurance Information Bureau of India. The investigation is likely to represent trends in the Indian market as a whole as the data used included all eligible records in the books of all public and private sector non-life insurance companies.

Key points which matter for understanding medical insurance during the year 2011-'12 are:

a) Average claim size of male lives Rs 27490
b) Average claim size of female lives Rs 22343
c) Average claim size gradually increases from the age band starting from "1-5"group with Rs 12417 to Rs 40684 on reaching the group "above 70 years".

d) Overall claim frequency for male and female are 6.704% and 7.284% respectively (claim frequency refers the proportion of total number of claims to total insured members)
e) 28.56% of the claim amount falls in the range of 10001-25000. 68.59% of claims are below Rs 25000

12. CONCLUSION-MEDICAL BENEFIT SCHEME FOR PLHIV

The PLHIV group mainly depends on Medical colleges and/or district medical centres for their medical support and treatment. This is obvious due to external non-financing of their medical costs and also availability of medical services at reasonable cost at medical colleges and district hospitals. It is very likely that, given coverage without restrictions would lead to very significant changes in their existing attitude towards hospitalisation and pattern of treatments. Private medical centres and specialised hospitals may replace district medical centres and medical colleges as their choice for all medical facilities. Changes in attitudes would lead to shooting up of cost of hospitalisation of the PLHIV group much above the cost levels of the general population in view of the higher frequency level of claims of the group.

The spread and severity of risk of PLHIV is restricted to a very small group who are subject to routine medical interventions and may remain stagnant or may increase year to year. This mainly depends on the success of programs in implementation by NACO and other organisations dedicated to it. To start with, implementation of any medical scheme on individual and/or group basis to be on a purely test basis based on prudent assumptions and to be reviewed on regular intervals by the medical service providers.

On basis of the above observations, it may be concluded that the average cost applicable for PLHIV also should be not less than that of the general population. The moderate medical cost escalation @10% during the past one year may also be considered to understand the expected cost member of PLHIV group better.

The calculation is:

Average number of hospitalisations*(average cost for male+ average cost for female)/2*Inflation factor*(frequency of hospitalisation+ percentage of infection to spouse* frequency of hospitalisation)

2.3*[(27490 + 22343)/2]*(1.1)*(44.07%+ 44.07%*49.00%)= 41394 (rounded off to 0 decimals)

This means, a contribution of **Rs 41400** per person may be a bench mark for meeting medical expenses of a PLHIV along with infected spouse for a year; for a single life, the contribution required from a member of the PLHIV group may be close to **Rs 27800**.

However, it may be noted that one time hospitalisation expenses of persons in PLHIV group may differ significantly from members belonging to non-PLHIV group which needs to be ascertained from a clinical expert. This could be due to a number of reasons including the possibilities of hospitals charging extra cost from HIV infected persons, spending more number of days in one hospitalisation and vulnerability to opportunistic infections.

Above calculations does not cover any cost associated with outpatient visits. Issues related to expected costs over and above the bench mark set above need to be understood and managed by medical service providers by suitably setting underwriting standards on a case to case basis.

13. NEXT STEPS

a) To create an efficient and dynamic data management system at all ART centres to create a central repository at NACO in order to generate continuous and regular indicators on PLHIV. This includes mechanisms to capture all medical history and events, cost and medical terminations of infected people.
b) Capturing data on a real time basis for a stipulated period in order to validate all assumptions made in the report.

c) To create a central repository of PLHIV data at NACO to enable validation of any assumptions made time to time by any stakeholder.

d) To employ technical experts in NACO and at all major ART centres for efficient management of data and related systems.
e) Any judgement of the outcome of investigations to be made on the basis of further investigations on PLHIV
f) Investigation regarding duplications and inconsistencies observed in the data and corrective action.
g) Investigations on whether both PLHIV and spouse are included as separate entries in the data provided.
h) Validation of frequency of visit by a patient to ART Centre
i) Conduct an extensive investigation by using all records to understand and validate the demographic features of the sample used
j) Use results of any investigation conducted by any agency on PLHIV to validate demographic profile revealed in the investigation.
k) Conduct survey among hospitals where PLHIV undergone treatments to understand average number of days per hospitalisation, reasons for hospitalisation, medical costs by its components, and any other history of the patient.

ANNEXURE-I

Treatment centres

Table 1

	AH-GDK	CHC	Dist. Hospital	Med. College	Others	Grand Total
Govt. Hospital	29	264	1353	1166	37	2849
Pvt. Hospital				5	105	110
Grand Total	29	264	1353	1171	142	2959

Gender/ Marriage status

Table 2

	Divorced	Live-in	Married	Separated	Unmarried/Single	Widowed	Grand Total
Female	54	1	591	54	49	549	1298
Male	25	1	1283	37	208	97	1651
Transgender			1		8	1	10
Grand Total	79	2	1875	91	265	647	2959

Employment Status

Table 3

	Female	Male	Transgender	Grand Total
Employed	491	1190	5	1686
Unemployed	807	461	5	1273
Grand Total	1298	1651	10	2959

Education levels

Table 4

	College	Illiterate	Primary	Secondary	Grand Total
Female	93	482	349	374	1298
Male	179	362	551	559	1651
Transgender	1	2	5	2	10
Grand Total	273	846	905	935	2959

Age bands (Self)

Table 5

	Female	Male	Transgender	Grand Total
0-11	13	11		24
12-24	86	53	2	141
25-34	503	362	6	871
35-49	599	999	2	1600
50-69	94	223		317
70-79	3	3		6
Grand Total	1298	1651	10	2959

Table 6

	Age band (self)						
Age band-Spouse	0-11	12-24	25-34	35-49	50-69	70-99	Grand Total
12-24		13	76	17			106
25-34		50	295	380	3		728
35-49		9	154	640	110		913
50-69		1	3	65	88		157
70-79					2	1	3
No spouse	24	68	343	498	114	5	1052
Grand Total	24	141	871	1600	317	6	2959

Reason to visit ART centre

Table 7

	0-11	12-24	25-34	35-49	50-69	70-79	Grand Total
Opportunistic infection		10	104	229	47	1	391
Others		28	92	173	32		325
Routine visits	24	100	644	1141	231	5	2145
Side effects		3	31	57	7		98
Grand Total	24	141	871	1600	317	6	2959

Average age (self)

Table 8

	0-11	12-24	25-34	35-49	50-69	70-99	Grand Total
Female	7.23	21.73	29.77	40.11	54.10	70.67	35.64
Male	7.82	21.13	30.39	40.96	54.77	72.67	39.71
Transgender		22.00	31.17	44.00			31.90
Grand Total	7.50	21.51	30.03	40.65	54.57	71.67	37.90

Smoking status

Table 9

	Female	Male	Transgender	Grand Total
Non-smoker	1234	1227	7	2468
Smoker	64	424	3	491
Grand Total	1298	1651	10	2959

Association of lives with ART and reasons

Table 10

	Reason to visit ART				
	Opportunistic infection	Others	Routine visits	Side effects	Grand Total
1 to 2 year	62	71	399	20	552
181- 360 days	54	26	186	14	280
2 to 3 years	58	52	393	17	520
3 to 5 years	113	60	546	17	736
30 to 90 days	24	50	171	9	254
91 to 180 days	12	21	140	11	184
less than 30 days	1	1	4		6
more than 5 years	67	44	306	10	427
Grand Total	391	325	2145	98	2959

Average number of months association with ART and reasons

Table 11

	Opportunistic infection	Others	Routine visits	Side effects	Grand Total
1 to 2 year	18.01	19.83	18.65	19.70	18.77
181- 360 days	9.87	9.94	9.99	10.26	9.98
2 to 3 years	30.55	31.50	30.55	31.51	30.68
3 to 5 years	46.46	46.92	47.59	47.23	47.36
30 to 90 days	1.87	2.06	2.04	1.76	2.02
91 to 180 days	5.23	5.80	5.60	5.73	5.61
less than 30 days	0.50	0.23	0.76		0.63
more than 5 years	81.14	73.34	76.30	77.61	76.78
Grand Total	36.36	29.45	33.46	27.87	33.22

Table 12

Average CD4 count at the time of detection of HIV

Age band	CD4 Count
0-11	349
12-24	276
25-34	264
35-49	227
50-69	224
70-79	221
Overall	241

Table 13

Frequency of Visit to ART centres/ year

Frequency	Count	Percentage
1	66	2.23%
2	88	2.97%
3	72	2.43%
4	109	3.68%
5	70	2.37%
6	66	2.23%
7	58	1.96%
8	66	2.23%
9	54	1.82%
10	94	3.18%
11	18	0.61%
12	1485	50.19%
13	114	3.85%
14	136	4.60%
15	237	8.01%
16	64	2.16%
17	40	1.35%
18	32	1.08%
19	22	0.74%
20	59	1.99%
22	1	0.03%
24	3	0.10%
28	5	0.17%
Grand Total	2959	100.00%

Table 14

Age	Female	Male	Transgender	Grand Total
1		1		1
2	2			2
5	1			1
6	1	1		2
7	1	3		4
8	2	1		3
9	4	1		5
10	2	3		5
11		1		1
12	1			1
13	1	2		3
14	1	1		2
15	2	1		3
16		1		1
17		5		5
18	2			2
19	3	3		6
20	8	4		12
21	15	6		21
22	9	3	2	14
23	22	13		35
24	22	14		36
25	35	22		57
26	37	18		55
27	43	18		61
28	61	39	1	101
29	38	25		63
30	93	57	2	152
31	39	28	1	68
32	65	62		127
33	44	46		90
34	47	47	2	96
35	89	98		187
36	57	70		127
37	42	68		110
38	64	90		154
39	33	57		90
40	75	124	1	200
41	35	64		99
42	41	79		120

43	32	66		98
44	19	41		60
45	45	85		130
46	10	40		50
47	26	38		64
48	23	53	1	77
49	9	26		35
50	27	42		69
51	8	21		29
52	9	33		42
53	8	17		25
54	5	12		17
55	9	23		32
56	3	16		19
57	6	3		9
58	5	9		14
59	1	6		7
60	6	13		19
61		4		4
62		6		6
63	2	5		7
64	1	1		2
65	3	6		9
66	1	2		3
67		2		2
69		2		2
70	2	1		3
72	1			1
73		1		1
75		1		1
Grand Total	1298	1651	10	2959

Status of infection to Spouse- Marital status basis

Table 15

	Divorced	Live-in	Married	Separated	Unmarried/ Single	Widowed	Grand Total
Don't know	20	1	152	25		220	418
No spouse					265		265
Spouse infected	38	1	1074	36		301	1450
Spouse not infected	21		649	30		126	826
Grand Total	79	2	1875	91	265	647	2959

Table 16

Status of child HIV infected

Row Labels	Child not infected	Child infected	Grand Total
Divorced	68	11	79
Live-in	2		2
Married	1674	201	1875
Separated	84	7	91
Widowed	559	88	647
Grand Total	2387	307	2694

Status of infection to Spouse- Gender basis

Table 17

	Don't know	No spouse	Spouse infected	Spouse not infected	Grand Total
Female	261	49	688	300	1298
Male	157	208	761	525	1651
Transgender		8	1	1	10
Grand Total	418	265	1450	826	2959

Status of infection to Spouse- Age band wise basis

Table 18

	Don't know	No spouse	Spouse infected	Spouse not infected	Grand Total
0-11		24			24
12-24	8	52	50	31	141
25-34	119	90	456	206	871
35-49	242	84	799	475	1600
50-69	47	15	143	112	317
70-79	2		2	2	6
Grand Total	418	265	1450	826	2959

Hospitalisation cost (self)

Table 19

No of hospitalisation in last year	Average cost per hospitalisation (Govt + Pvt)	Average cost per hospitalisation (Govt)	Average cost per hospitalisation (Pvt)
1	12,943	7,806	17,603
2	9,602	5,284	14,313
3	6,260	3,995	8,780
4	3,546	1,436	5,480
5	4,605	3,245	6,823
6	3,093	1,601	3,807
7	3,547	412	5,625
8	1,198	356	2,317
9	5,883	317	7,874
10	1,173	339	1,549
11	1,330	86	3,818
12	549	264	3,626
Overall	10,131	5,549	13,816

Hospitalisation cost (Spouse)

Table 20

No of hospitalisation in last year	Average of Govt + Pvt (Cost) Spouse	Average of Cost (Govt) Spouse	Average of Cost (Pvt) Spouse
1	11,996	6,698	17,223
2	15,190	6,712	12,604
3	17,672	16,491	11,850
4	48,714	2,825	47,100
5	7,000	2,000	5,000
6	35,647	4,576	63,667
8	40,000		40,000
Grand Total	15,100	7,595	17,460

Frequency of medical admission (Self)

Table 21

No of hospitalisation in last year	Govt+ Private	Govt	Pvt.
0	1655	2164	2192
1	683	525	505
2	331	137	154
3	116	39	52
4	38	16	23
5	40	13	21
6	15	6	3
7	7	4	2
8	10	3	1
9	4	3	2
10	8	5	2
11	3	4	1
12	49	40	1
Grand Total	2959	2959	2959

Table 22

Frequency of medical admission (Spouse infected)

0	777	841	836
1	97	69	73
2	33	12	12
3	15	5	6
4	2		1
5	1		
6	3	2	
8	1		1
Grand Total	929	929	929

Table 23

Average number of hospitalisation (last year)

Self	2.3
Spouse	1.7

ANNEXURE-II

WHO Clinical Staging of HIV/AIDS and Case Definition

The clinical staging and case definition of HIV for resource-constrained settings were developed by the WHO in 1990 and revised in 2007 and 2011.

Staging is based on clinical findings that guide the diagnosis, evaluation, and management of HIV/AIDS, and it does not require a CD4 cell count.

This staging system is used in many countries to determine eligibility for antiretroviral therapy, particularly in settings in which CD4 testing is not available. Clinical stages are categorized as 1 through 4, progressing from primary HIV infection to advanced HIV/AIDS

These stages are defined by specific clinical conditions or symptoms. For the purpose of the WHO staging system, adolescents and adults are defined as individuals aged ≥15 years.

WHO Clinical Staging of HIV/AIDS for Adults and Adolescents

Primary HIV Infection
• Asymptomatic • Acute retroviral syndrome
Clinical Stage 1
• Asymptomatic • Persistent generalized lymphadenopathy
Clinical Stage 2
• Moderate unexplained weight loss (<10% of presumed or measured body weight) • Recurrent respiratory infections (sinusitis, tonsillitis, otitis media, and pharyngitis) • Herpes zoster • Angular cheilitis • Recurrent oral ulceration • Papular pruritic eruptions • Seborrheic dermatitis • Fungal nail infections
Clinical Stage 3
• Unexplained severe weight loss (>10% of presumed or measured body weight) • Unexplained chronic diarrhea for >1 month • Unexplained persistent fever for >1 month (>37.6ºC, intermittent or constant) • Persistent oral candidiasis (thrush) • Oral hairy leukoplakia • Pulmonary tuberculosis (current) • Severe presumed bacterial infections (e.g., pneumonia, empyema, pyomyositis, bone or joint infection, meningitis, bacteremia) • Acute necrotizing ulcerative stomatitis, gingivitis, or periodontitis • Unexplained anemia (hemoglobin <8 g/dL) • Neutropenia (neutrophils <500 cells/µL) • Chronic thrombocytopenia (platelets <50,000 cells/µL)
Clinical Stage 4
• HIV wasting syndrome, as defined by the CDC (see Table 1, above) • *Pneumocystis* pneumonia • Recurrent severe bacterial pneumonia • Chronic herpes simplex infection (orolabial, genital, or anorectal site for >1 month or visceral herpes at any site)

- Esophageal candidiasis (or candidiasis of trachea, bronchi, or lungs)
- Extrapulmonary tuberculosis
- Kaposi sarcoma
- Cytomegalovirus infection (retinitis or infection of other organs)
- Central nervous system toxoplasmosis
- HIV encephalopathy
- Cryptococcosis, extrapulmonary (including meningitis)
- Disseminated nontuberculosis mycobacteria infection
- Progressive multifocal leukoencephalopathy
- Candida of the trachea, bronchi, or lungs
- Chronic cryptosporidiosis (with diarrhea)
- Chronic isosporiasis
- Disseminated mycosis (e.g., histoplasmosis, coccidioidomycosis, penicilliosis)
- Recurrent nontyphoidal *Salmonella* bacteremia
- Lymphoma (cerebral or B-cell non-Hodgkin)
- Invasive cervical carcinoma
- Atypical disseminated leishmaniasis
- Symptomatic HIV-associated nephropathy
- Symptomatic HIV-associated cardiomyopathy
- Reactivation of American trypanosomiasis (meningoencephalitis or myocarditis)

WHO Clinical Stage	Recommendations
HIV infected Adults & Adolescents (Including pregnant women)	
Clinical Stage I and II	Start ART if CD4 < 350 cells/mm^3
Clinical Stage III and IV	Start ART irrespective of CD4 count
For HIV and TB co-infected patients	
Patients with HIV and TB co-infection	Start ART irrespective of CD4 count and type of tuberculosis (Start ATT first, initiate ART as early as possible between 2 weeks to 2 months when TB treatment is tolerated)
For HIV and Hepatitis B and C co-infected patients	
HIV and HBV / HCV co-infection – without any evidence of chronic active Hepatitis	Start ART if CD4 < 350 cells/mm^3
HIV and HBV / HCV co-infection – With documented evidence of chronic active Hepatitis	Start ART irrespective of CD4 count