

HAEMODIALYSIS IN MALAYSIA

HAEMODIALYSIS IN GOVERNMENT CENTRES

HAEMODIALYSIS IN NON-GOVERNMENTAL ORGANISATION (NGO) CENTRES

HAEMODIALYSIS IN PRIVATE CENTRES

HAEMODIALYSIS
IN
GOVERNMENT CENTRES

Stock and Flow

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3. HAEMODIALYSIS IN MALAYSIA

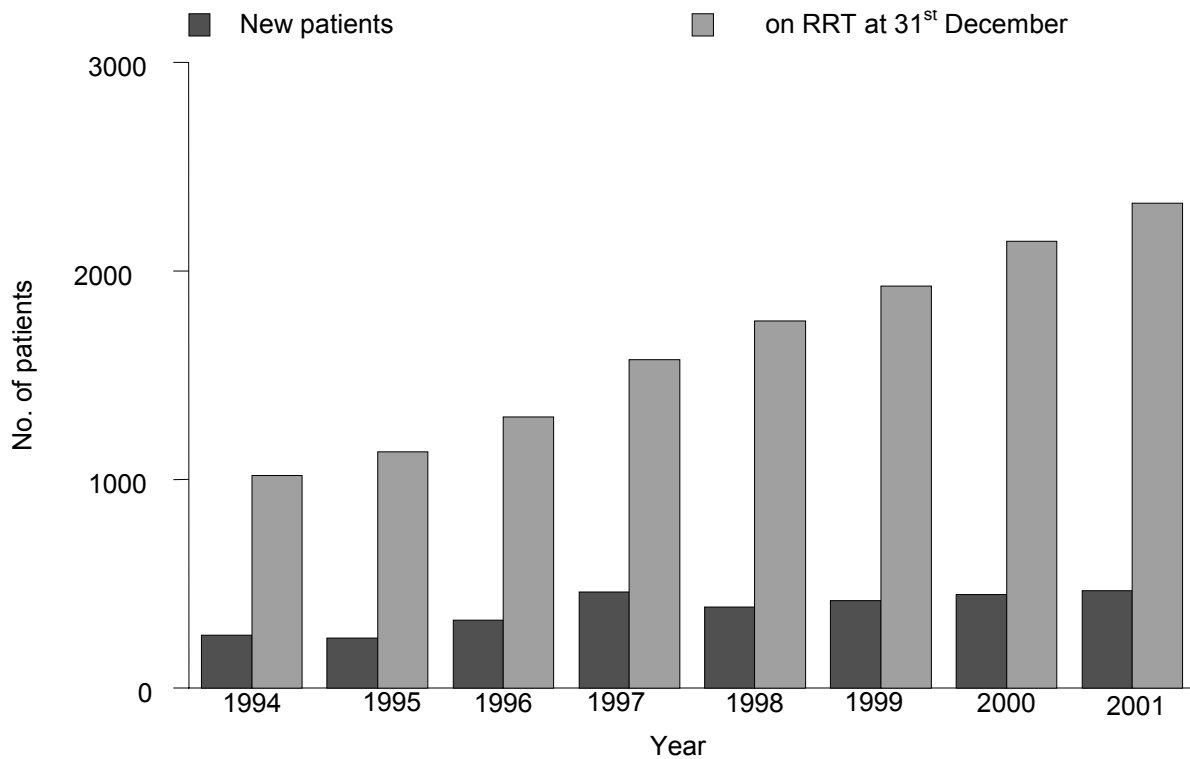
3.1. HAEMODIALYSIS IN GOVERNMENT CENTRES

3.1.1 STOCK AND FLOW

**Table 3.1.01: Stock and flow of Haemodialysis Patients, Government Centres
1994 – 2001**

Year	1994	1995	1996	1997	1998	1999	2000	2001
New patients	253	241	325	460	389	419	447	467
Died	79	85	115	138	159	208	198	205
Transferred to PD	7	13	7	9	6	12	7	28
Transplanted	30	26	35	34	30	26	26	41
Lost to follow up	0	6	1	4	7	5	3	9
On HD at 31 st December	1020	1131	1298	1573	1760	1928	2140	2324

Figure 3.1.01: Stock and Flow HD patients, Government Centres 1994 – 2001



3.1.2 PLACE OF HAEMODIALYSIS AND ITS FINANCE

Table 3.1.02: Place for HD, Government Centres 1998 – 2001

Year	1998	1999	2000	2001
New patients	389	419	447	467
% Centre HD	94	94	96	93
% Home HD	1	1	1	3
% Office HD	5	5	3	4
On HD at 31 st December	1760	1928	2140	2324
% Centre HD	86	87	89	90
% Home HD	4	3	2	2
% Office HD	11	10	8	8

Figure 3.1.02: Place of HD, Government Centres 1998- 2001

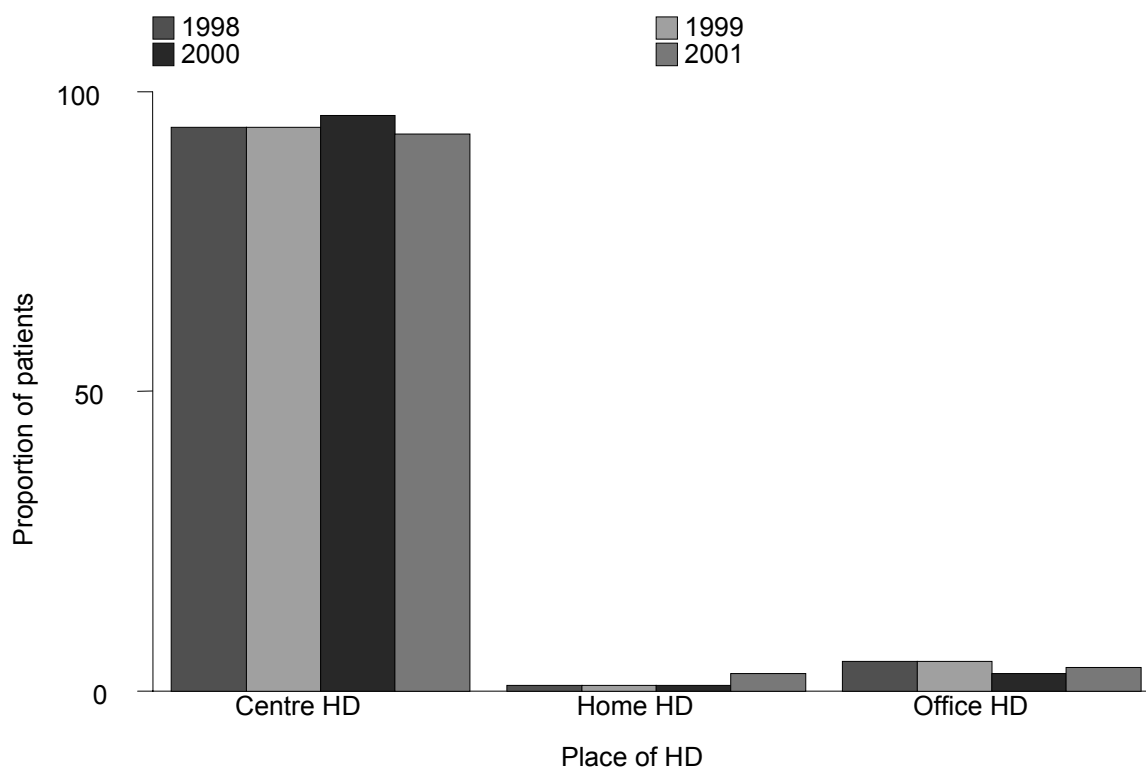
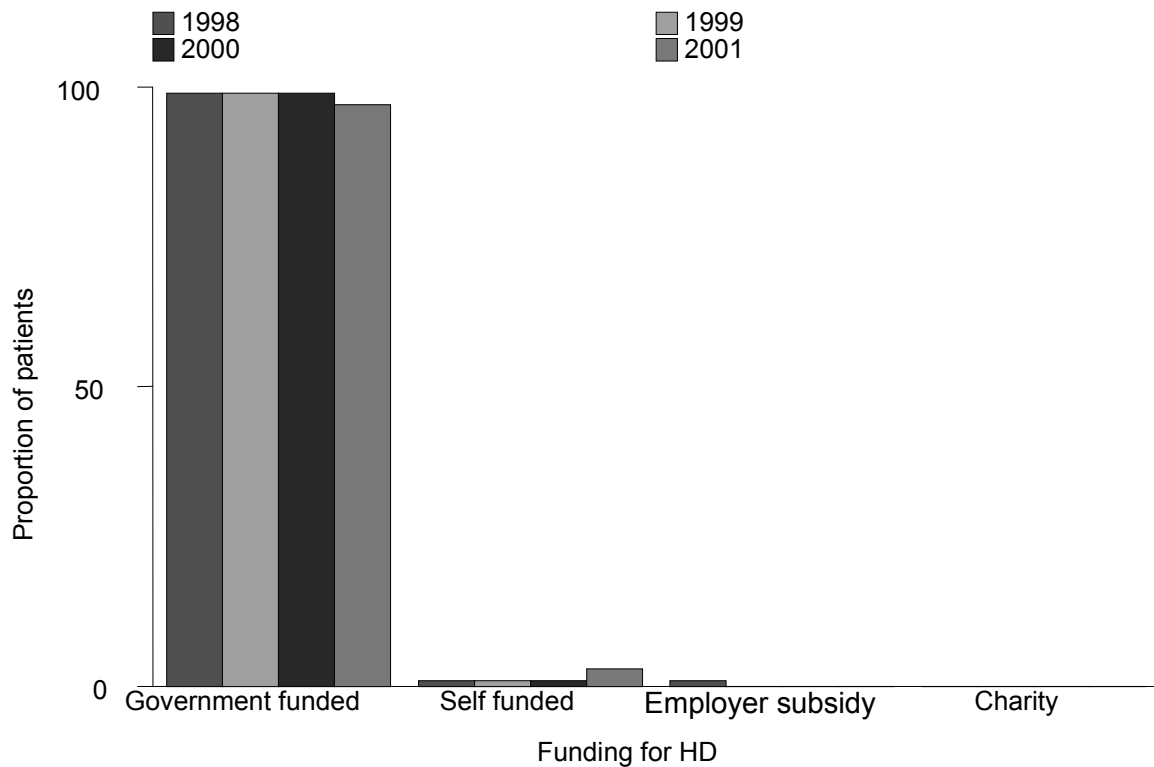


Table 3.1.03: Finance for HD, Government Centres 1998 – 2001

Year	1998	1999	2000	2001
New patients	389	419	447	467
Government funded	99	99	99	97
% Self funded	1	1	1	3
% Employer subsidy	1	0	0	0
% Charity	0	0	0	0
on HD at 31st December	1760	1928	2140	2324
% Government funded	97	98	98	98
% Self funded	2	2	1	1
% Employer subsidy	1	1	1	1
% Charity	0	0	0	0

Figure 3.1.03: Finance for new HD, Government Centres 1998 – 2001



3.1.3 DEATH ON HAEMODIALYSIS AND TRANSFER TO PERITONEAL DIALYSIS

Table 3.1.04: HD Death Rate and Transfer to PD, Government Centres 1994 – 2001

year	1994	1995	1996	1997	1998	1999	2000	2001
No. at risk	1020	1076	1215	1436	1667	1844	2034	2232
Deaths	79	85	115	138	159	208	198	205
Death rate %	8	8	9	10	10	11	10	9
Transfer to PD	7	13	7	9	6	12	7	28
Transfer to PD rate %	1	1	1	1	0	1	0	1
All Losses	86	98	122	147	165	220	205	233
All Losses rate %	8	9	10	10	10	12	10	10

Figure 3.1.04: Death Rate on HD, Government Centres 1994 – 2001

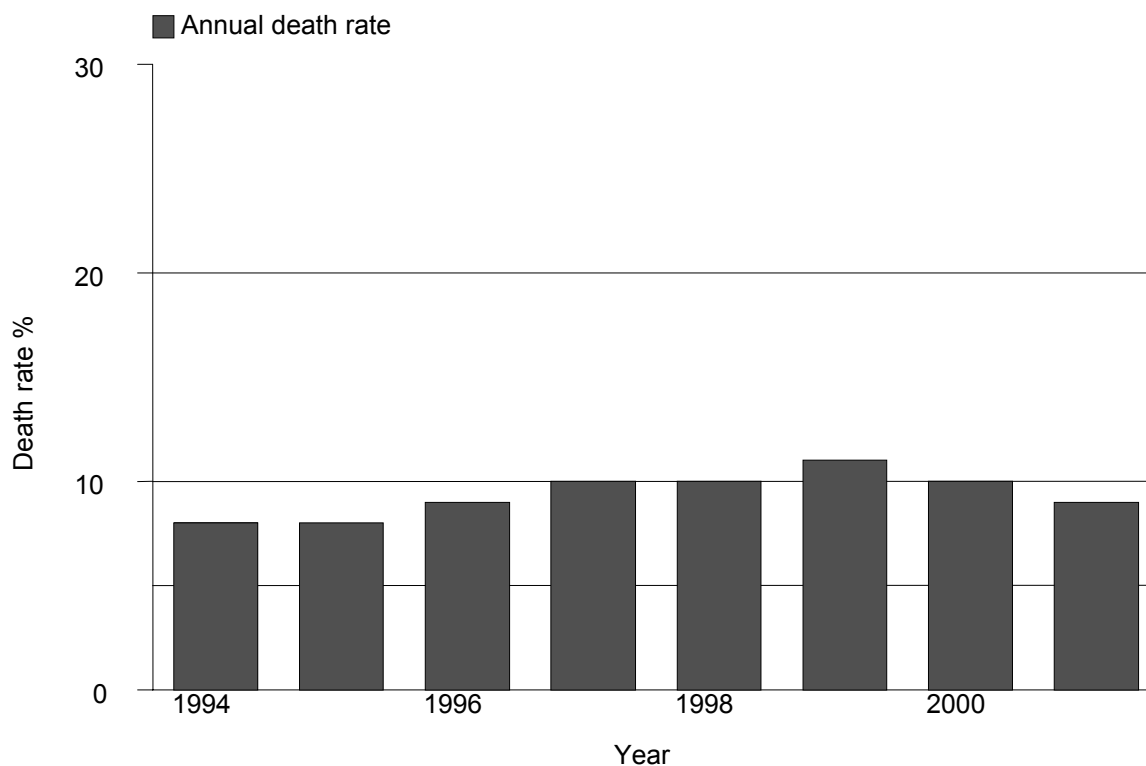


Table 3.1.05: Causes of Death on HD, Government Centres 1998 – 2001

Cause of death	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Cardiovascular	50	31	79	38	72	36	84	41
Died at home	34	21	44	21	32	16	29	14
Sepsis	34	21	37	18	43	22	38	19
GIT bleed	5	3	6	3	6	3	4	2
Cancer	4	3	2	1	6	3	3	1
Liver disease	1	1	2	1	1	1	0	0
Others	22	14	33	16	34	17	27	13
Unknown	9	6	5	2	4	2	20	10
Total	159	100	208	100	198	100	205	100

3.1.4. GOVERNMENT HAEMODIALYSIS CENTRES

Table 3.1.07: Centre Distribution of HD patients, Government Centres 2001

	Centre	No	percent
	No. on HD at 31 st December	2324	100
1	801 Rumah Sakit Angkatan Tentera, Kuching	9	0
2	807 Rumah Sakit Angkatan Tentera, Sg Petani	7	0
3	810 Rumah Sakit Angkatan Tentera, Majidee	8	0
4	819 Rumah Sakit Angkatan Tentera, TUDM	4	0
5	94 Hospital Angkatan Tentera, Terendak	28	1
6	95 Hospital Angkatan Tentera, Kinrara	25	1
7	96 Hospital Angkatan Tentera, Lumut	14	1
8	Alor Setar Hospital	92	4
9	Baling Hospital	9	0
10	Banting Hospital	22	1
11	Batu Pahat Hospital	28	1
12	Beaufort Hospital	15	1
13	Besut Hospital	11	0
14	Bintulu Hospital	21	1
15	Bukit Mertajam Hospital	42	2
16	Butterworth Hospital	6	0
17	Duchess of Kent Hospital	35	2
18	Dungun Hospital	15	1
19	Ipoh Hospital	113	5
20	Kajang Hospital	25	1
21	Kangar Hospital	60	3
22	Kemaman Hospital	12	1
23	Keningau Hospital	26	1
24	Kluang Hospital	24	1
25	Kota Bharu Hospital	57	2
26	Kuala Krai Hospital	11	0
27	Kuala Lumpur Hospital	164	7
28	Kuala Lumpur Hospital (Paed.)	1	0
29	Kuala Nerang Hospital	6	0
30	Kuala Pilah Hospital	30	1
31	Kuala Terengganu Hospital	63	3
32	Kuching Hospital	97	4
33	Kulim Hospital	16	1
34	Labuan Hospital	24	1
35	Langkawi Hospital	15	1

36	Melaka Hospital	44	2
37	Mentakab Hospital	41	2
38	Miri Hospital	66	3
39	Muar Hospital	56	2
40	Pontian Hospital	11	0
41	Pulau Pinang Hospital	68	3
42	Pusat Hemodialisis KEMENTAH	14	1
43	Pusat Rawatan Angkatan Tentera Kota Bharu	11	0
44	Putrajaya Hospital	28	1
45	Queen Elizabeth Hospital	88	4
46	Raub Hospital	27	1
47	Segamat Hospital	31	1
48	Selayang Hospital	35	2
49	Seremban Hospital	60	3
50	Sg Bakap Hospital	3	0
51	Sibu Hospital	52	2
52	Sik Hospital	9	0
53	Sri Aman Hospital	12	1
54	Sultanah Aminah Hospital	114	5
55	Sungai Petani Hospital	35	2
56	Taiping Hospital	34	1
57	Tanah Merah Hospital	14	1
58	Tanjung Karang Hospital	11	0
59	Tanjung Malim Hospital	9	0
60	Tawau Hospital	64	3
61	Teluk Intan Hospital	26	1
62	Tengku Ampuan Afzan Hospital, Kuantan	50	2
63	Tengku Ampuan Rahimah Hospital, Klang	70	3
64	Tg. Ampuan Jemaah Hospital, Sabak Bernam	11	0
65	Universiti Kebangsaan Malaysia Hospital	24	1
66	Universiti Sains Malaysia Hospital	6	0
67	University Malaya Medical Centre	56	2
68	Yan Hospital	9	0

3.1.5 HAEMODIALYSIS PATIENTS' CHARACTERISTICS

Table 3.1.08: Age Distribution of HD patients, Government Centres 1998 – 2001

Year	1998	1999	2000	2001
New patients	389	419	447	467
% 1-14 years	1	1	2	1
% 15-24 years	8	9	8	7
% 25-34 years	13	12	13	10
% 35-44 years	21	16	18	19
% 45-54 years	27	32	24	29
% 55-64 years	22	23	26	23
% ≥65 years	8	7	9	10
Dialysing at 31st December	1760	1928	2140	2324
% 1-14 years	1	1	1	1
% 15-24 years	8	8	8	8
% 25-34 years	19	18	18	17
% 35-44 years	26	25	24	24
% 45-54 years	24	25	25	25
% 55-64 years	18	18	18	18
% ≥65 years	5	5	5	5

Table 3.1.09: HD Patient Characteristics, Government Centres 1998 – 2001

Year	1998	1999	2000	2001
New patients	389	419	447	467
Mean age ± sd	46±14	46±15	46±15	47±14
% Male	61	64	59	56
% Diabetic	32	32	31	37
% HbsAg+	6	7	7	5
% Anti-HCV+	11	6	5	3

3.1.6 SURVIVAL ANALYSIS – GOVERNMENT CENTRES

**Table 3.1.10: HD patient Survival related to Year of Entry, Government Centres
1996 – 2001**

Year	1996			1997			1998		
Interval (months)	% survival	SE	No	% survival	SE	No	% survival	SE	No
6	95	1	299	93	1	420	94	1	358
12	91	2	277	88	2	391	90	2	335
24	86	2	246	82	2	354	81	2	301
36	77	2	217	75	2	323	75	2	268
48	69	3	191	68	2	279			
60	64	3	163						

Year	1999			2000			2001		
Interval (months)	% survival	SE	No	% survival	SE	No	% survival	SE	No
6	91	1	377	92	1	406	90	2	233
12	85	2	348	89	1	380			
24	80	2	313						

No. = number at risk

SE = standard error

**Figure 3.1.10: HD patient Survival related to Year of Entry, Government Centres
1997– 2001**

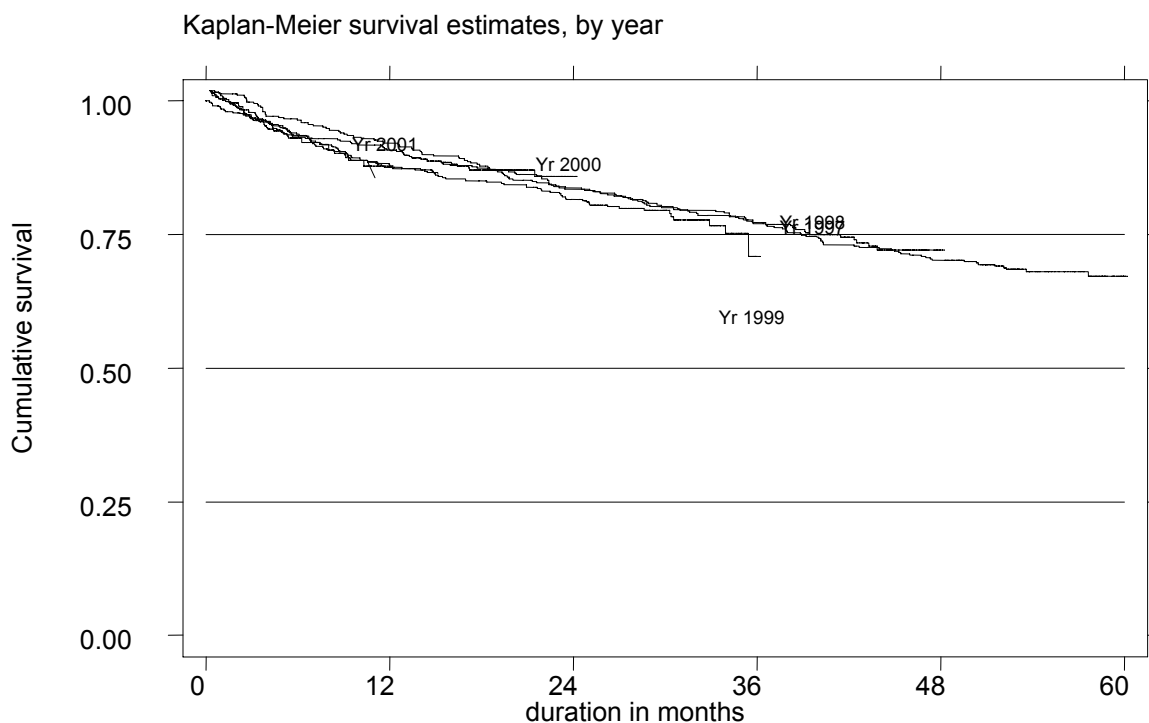


Table 3.1.11: HD Technique Survival related to Year of Entry, Government Centres 1996– 2001

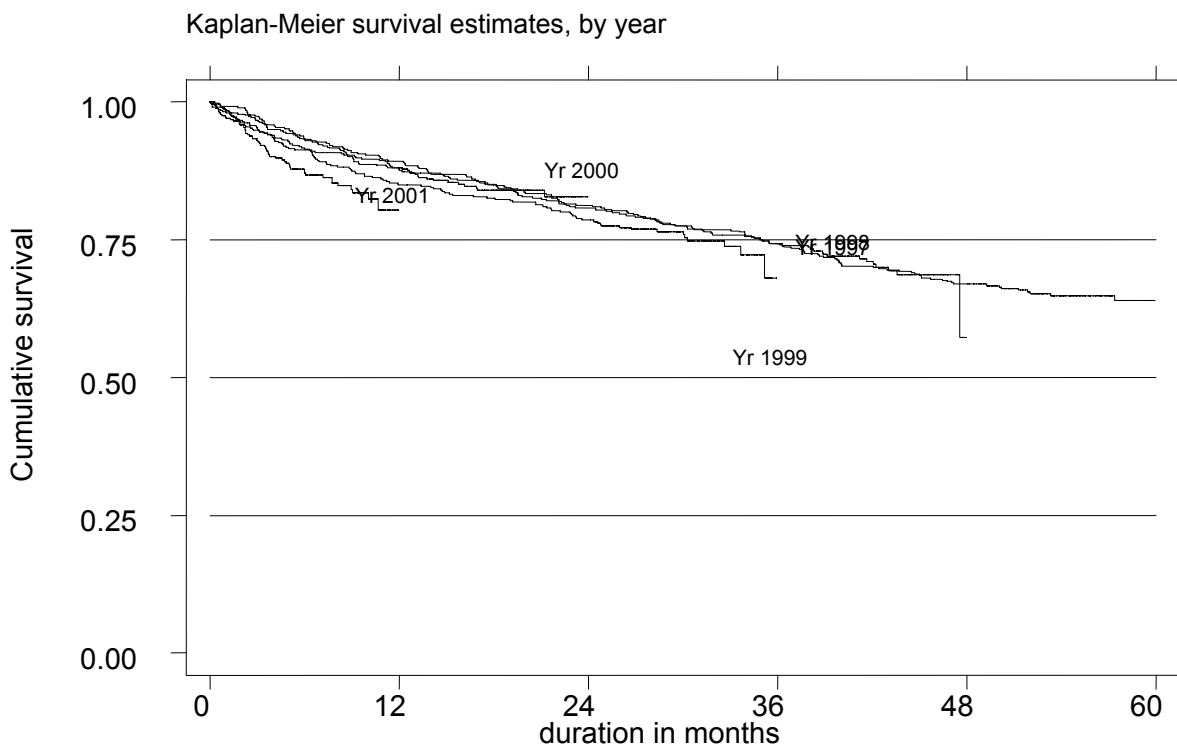
Year	1996			1997			1998		
Interval	% survival	SE	No	% survival	SE	No	% survival	SE	No
6	95	1	299	93	1	420	93	1	358
12	91	2	277	88	2	391	89	2	335
24	84	2	246	81	2	354	81	2	301
36	75	3	217	74	2	323	74	2	268
48	67	3	191	67	2	279			
60	62	3	163						

Year	1999			2000			2001		
Interval	% survival	SE	No	% survival	SE	No	% survival	SE	No
6	91	1	377	91	1	406	87	2	233
12	85	2	348	88	2	380			
24	79	2	312						

No. = number at risk

SE = standard error

Figure 3.1.11 HD Technique Survival by Year of Entry, Government Centres 1997 – 2001



**3.1.7. WORK RELATED REHABILITATION AND QUALITY OF LIFE
ON HAEMODIALYSIS, GOVERNMENT CENTRES**

Table 3.1.12: Work Related Rehabilitation on HD, Government Centres 1998 – 2001

REHABILITATION STATUS	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Full time work for pay	513	40	604	35	624	33	682	32
Part time work for pay	116	9	160	9	222	12	196	9
Able to work but unable to get a job	45	3	48	3	75	4	105	5
Able to work but not yet due to dialysis schedule	19	1	53	3	44	2	51	2
Able but disinclined to work	9	1	30	2	35	2	38	2
Home maker	262	20	357	21	413	22	482	23
Full time student	15	1	24	1	44	2	49	2
Age<15 years	3	0	4	0	6	0	6	0
Retired	156	12	202	12	197	10	202	10
Age>65 years	84	7	98	6	126	7	152	7
Unable to work due to poor health	68	5	138	8	115	6	142	7
Total	1290	100	1718	100	1901	100	2105	100

Table 3.1.13: Quality of Life on Haemodialysis, Government Centres 1998 – 2001

QOL Index Summated Score	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
0 (Worst QOL)	1	0	2	0	1	0	1	0
1	1	0	2	0	2	0	2	0
2	5	0	6	0	7	0	6	0
3	8	1	12	1	10	1	10	0
4	21	2	26	2	32	2	31	1
5	36	3	55	3	54	3	65	3
6	59	5	70	4	75	4	93	4
7	57	5	110	7	122	7	108	5
8	89	7	125	7	145	8	180	9
9	95	8	172	10	182	10	165	8
10 (Best QOL)	890	71	1099	65	1246	66	1440	69
Total	1262	100	1679	100	1876	100	2101	100

3.1.8 HAEMODIALYSIS PRACTICES IN GOVERNMENT CENTRES

Table 3.1.14: Vascular Access on Haemodialysis, Government Centres 1998 – 2001

Access types	1998		1999		2000		2001	
	No	%	No	%	No	%	No	%
Wrist AVF	1352	83	1481	80	1655	79	1727	76
BCF*	224	14	294	16	361	17	460	20
Venous graft	3	0	2	0	5	0	4	0
Artificial graft	17	1	23	1	10	0	20	1
PERMCATH	8	0	12	1	14	1	13	1
Temporary CVC*	32	2	49	3	43	2	53	2
Total	1636	100	1861	100	2088	100	2277	100

* *BCF = Brachiocephalic fistula*

* *CVC = Central venous catheter*

Table 3.1.15: Difficulties reported with Vascular Access, Government Centres 1998 – 2001

Access difficulty	1998		1999		2000		2001	
	No	%	No	%	No	%	No	%
Difficulty with needle placement	67	4	98	5	78	4	90	4
Difficulty in obtaining desired blood flow rate	36	2	59	3	69	3	76	3
Other difficulty	18	1	28	1	14	1	19	1
No difficulty	1524	93	1682	90	1934	92	2104	92
Total	1645	100	1867	100	2095	100	2289	100

**Table 3.1.16: Complications reported with Vascular Access, Government Centres
1998 – 2001**

Complication	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
thrombosis	59	4	91	5	79	4	92	4
bleed	26	2	14	1	9	0	15	1
aneurysmal dilatation	118	7	123	7	122	6	108	5
swollen limb	20	1	21	1	19	1	23	1
access related infection, local/systemic	13	1	19	1	31	1	16	1
distal limb ischaemia	4	0	7	0	2	0	5	0
venous outflow obstruction	25	2	29	2	33	2	38	2
carpal tunnel	11	1	23	1	26	1	14	1
other	28	2	22	1	21	1	24	1
no complication	1342	82	1518	81	1752	84	1953	85
Total	1646	100	1867	100	2094	100	2288	100

Table 3.1.17: Blood Flow Rates in Government HD Units 1998– 2001

Blood flow rates	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
<150 ml/min	4	0	4	0	4	0	2	0
150-199 ml/min	28	2	43	2	38	2	17	1
200-249 ml/min	503	31	433	24	387	19	271	12
250-299 ml/min	786	49	950	52	933	46	894	40
300-349 ml/min	268	17	374	21	595	29	875	39
> 350 ml/min	27	2	20	1	76	4	185	8
Total	1616	100	1824	100	2033	100	2244	100

Table 3.1.18: Number of HD Sessions per week, Government HD Units 1998 – 2001

HD sessions Per week	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
1	1	0	1	0	1	0	0	0
2	2	0	16	1	17	1	10	0
3	1638	100	1844	99	2068	99	2268	99
4	2	0	1	0	3	0	11	0
Total	1643	100	1862	100	2091	100	2289	100

Table 3.1.19: Duration of HD in Government Units 1998 – 2001

Duration of HD per session	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
≤3 hours	3	0	2	0	6	0	1	0
3.5 hours	16	1	0	0	1	0	20	1
4 hours	1523	93	1732	93	1973	94	2212	97
4.5 hours	87	5	106	6	96	5	52	2
5 hours	8	0	22	1	12	1	5	0
≥5 hours	3	0	0	0	1	0	0	0
Total	1640	100	1862	100	2089	100	2290	100

Table 3.1.20: Dialyser membrane types in Government HD Units 1998 – 2001

Dialyser membrane	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Cellulosic	784	53	514	37	491	31	390	22
Cellulose acetate	318	22	319	23	300	19	168	10
Synthetic	369	25	542	39	812	51	1189	68
Total	1471	100	1375	100	1603	100	1747	100

Table 3.1.21: Dialyser Reuse Frequency in Government HD Units 1998- 2001

Dialyser reuse frequency	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
1*	13	1	15	1	14	1	13	1
2	4	0	5	0	11	1	7	0
3	170	11	117	7	100	5	125	6
4	99	7	96	5	116	6	89	4
5	102	7	121	7	75	4	107	5
6	748	50	925	53	998	51	730	34
7	36	2	41	2	63	3	67	3
8	63	4	79	5	122	6	122	6
9	108	7	173	10	63	3	83	4
10	70	5	66	4	76	4	223	10
11	23	2	5	0	3	0	38	2
12	63	4	106	6	280	14	372	17
≥13	0	0	0	0	44	2	153	7
Total	1499	100	1749	100	1965	100	2129	100

1* is single use i.e. no reuse

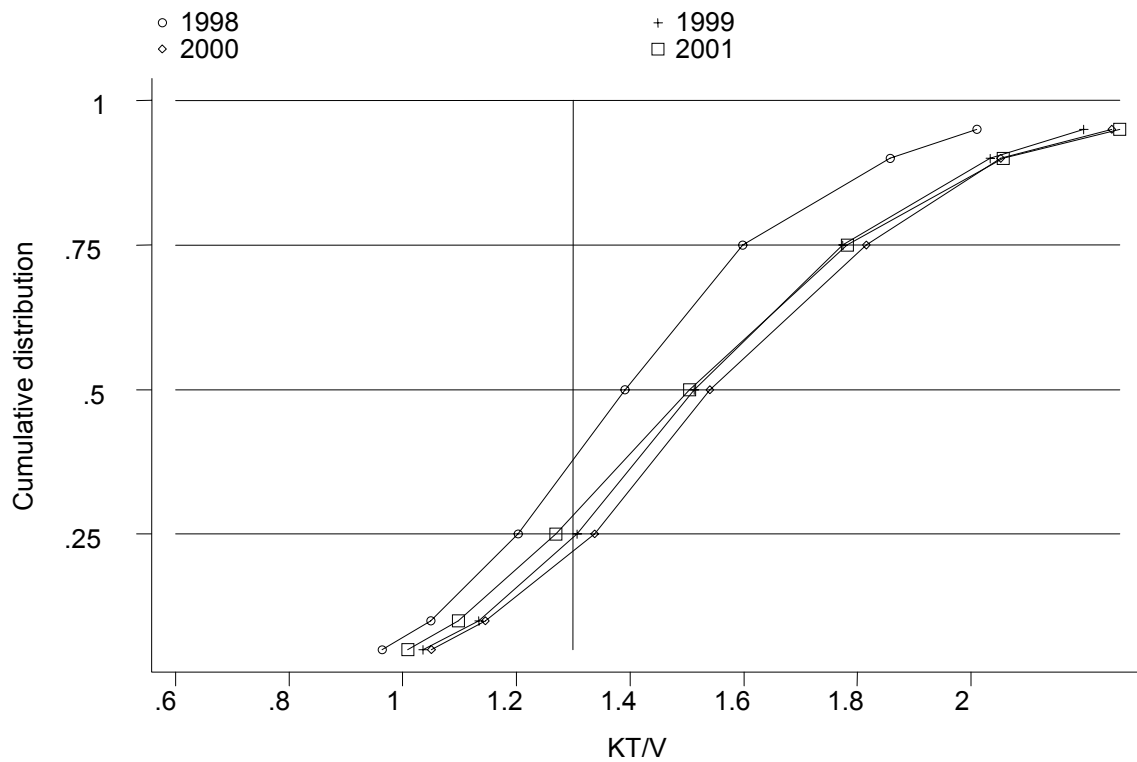
Table 3.1.22: Dialysate Buffer used in Government HD Units 1998 – 2001

Dialysate buffer	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Acetate	536	33	434	23	273	13	165	7
Bicarbonate	1082	67	1429	77	1806	87	2118	93
Total	1618	100	1863	100	2079	100	2283	100

**Table 3.1.23: Distribution of Prescribed KT/V, Government Centres
1998 – 2001**

Year	No of subjects	No of observations	median	LQ	UQ	% > 1.3
1998	1580	16347	1.4	1.2	1.6	63
1999	1778	17940	1.5	1.3	1.8	76
2000	1973	20477	1.5	1.3	1.8	79
2001	2196	22541	1.5	1.3	1.8	72

Figure 3.1.23: Cumulative distribution of Prescribed KT/V by year



3.1.9. DYSLIPIDAEMIA IN HD PATIENTS, GOVERNMENT CENTRES

Table 3.1.24: Distribution of serum Cholesterol Levels (mmol/l), HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients < 5.3 mmol/l
1998	1040	1698	5	4.2	5.9	64
1999	1526	2499	4.8	4	5.7	69
2000	1708	2832	4.8	4.1	5.7	69
2001	1979	3386	4.9	4.2	5.8	67

Figure 3.1.24: Cumulative distribution of serum cholesterol concentration by year

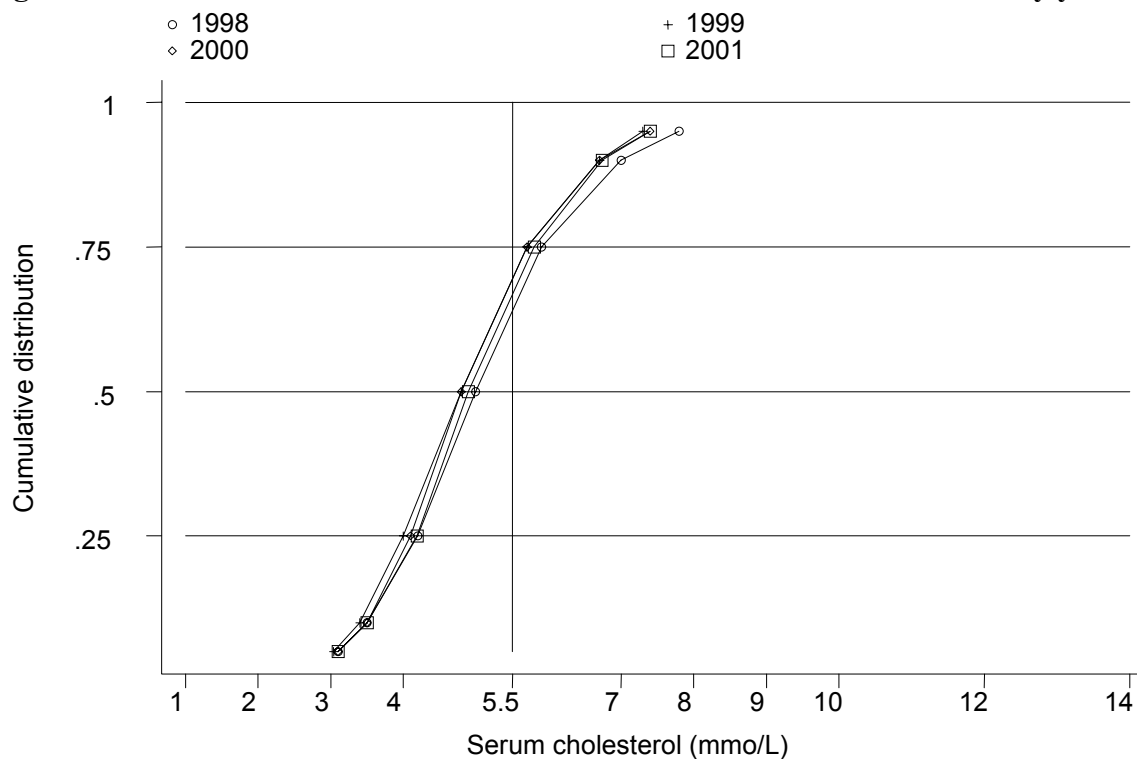


Table 3.1.25: Distribution of serum Triglyceride (mmol/l), HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients < 3.5 mmol/l
1998	979	1579	1.8	1.2	2.6	86
1999	1415	2248	1.7	1.2	2.5	88
2000	1565	2583	1.7	1.2	2.5	88
2001	1871	3191	1.7	1.2	2.5	87

Figure 3.1.25: Cumulative distribution of serum triglyceride concentration by year

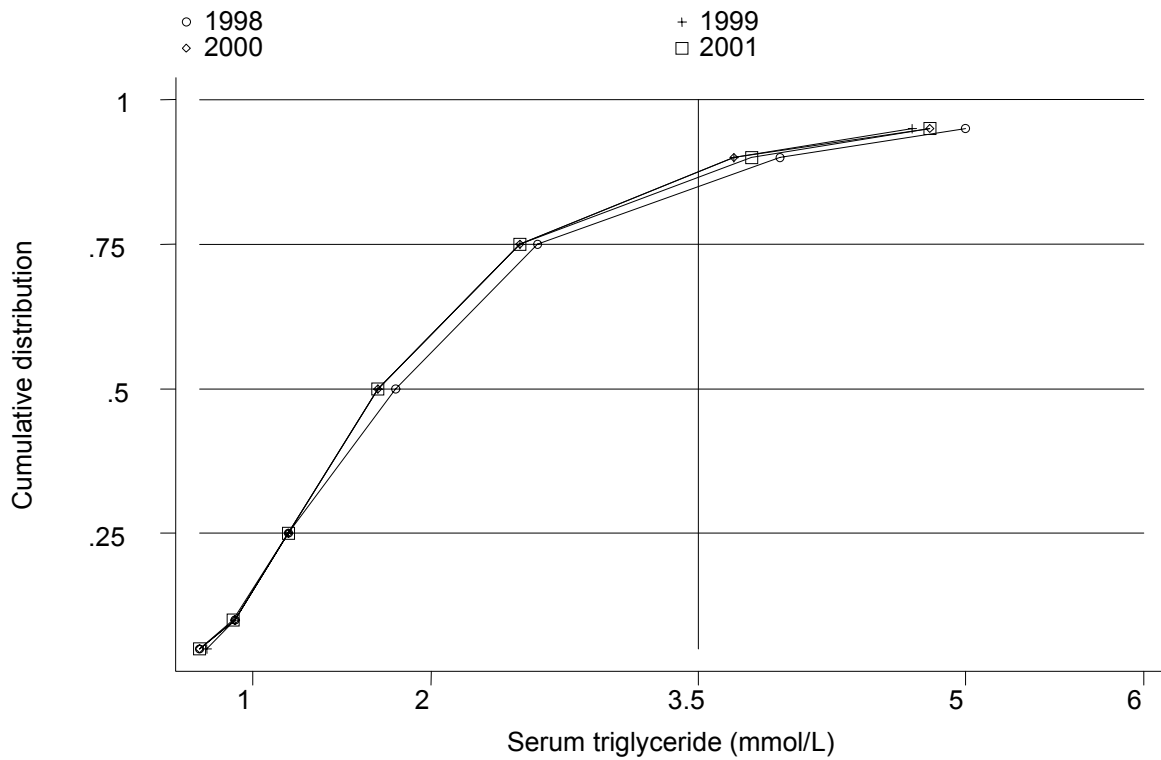


Table 3.1.26: Distribution of serum LDL (mmol/l), HD patient, Government Centres 1998– 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients <5 mmol/l
1998	468	723	3	2.2	3.9	92
1999	722	1020	3	2.3	3.9	93
2000	921	1496	2.9	2.2	3.7	94
2001	1281	2064	2.9	2.2	3.7	95

Figure 3.1.26: Cumulative distribution of serum LDL concentration by year

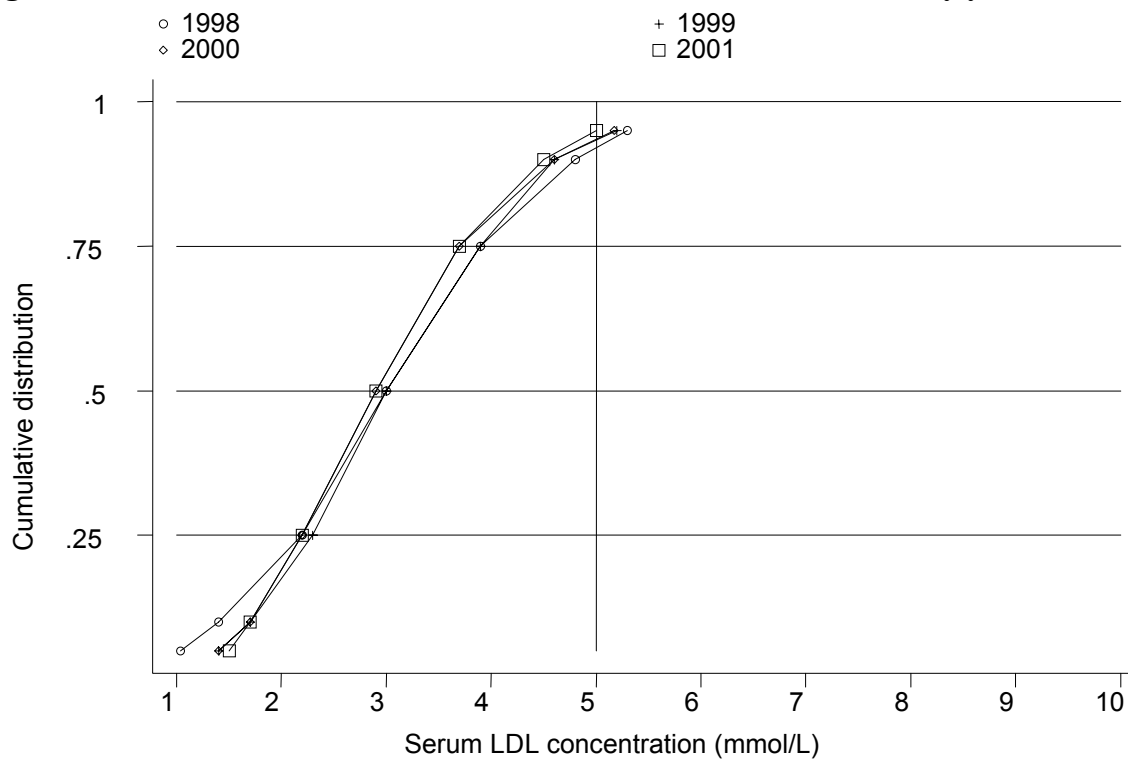
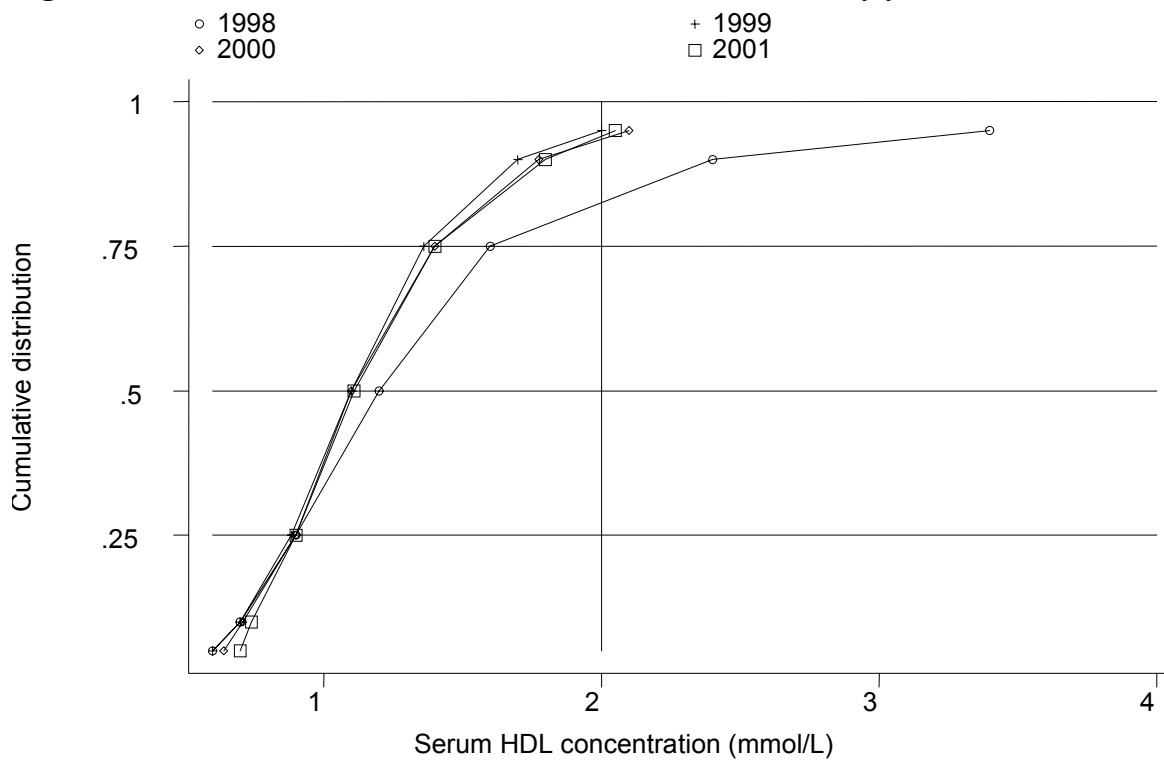


Table 3.1.27: Distribution of serum HDL (mmol/l), HD patient, Government Centres 1998- 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients < 2mmol/l
1998	473	738	1.2	.9	1.6	84
1999	737	1052	1.1	.9	1.4	95
2000	945	1530	1.1	.9	1.4	93
2001	1273	2071	1.1	.9	1.4	94

Figure 3.1.27: Cumulative distribution of serum HDL by year



3.1.10 MANAGEMENT OF RENAL BONE DISEASE, GOVERNMENT CENTRES

Table 3.1.28: Treatment for Renal Bone Disease, HD patients, Government Centres 1998 – 2001

year	No of subjects	% on CaCO ₃	% on Al(OH) ₃	% on Vit D
1998	1657	90	18	28
1999	1878	91	9	24
2000	2102	92	8	24
2001	2305	93	4	22

Table 3.1.29: Distribution of serum Phosphate (mmol/l), HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients <1.6 mmol/l
1998	1591	5236	1.9	1.5	2.3	30
1999	1821	5846	1.8	1.4	2.3	36
2000	2037	6594	1.8	1.4	2.3	36
2001	2219	7284	1.8	1.4	2.3	36

Figure 3.1.29: Cumulative distribution of serum Phosphate by year

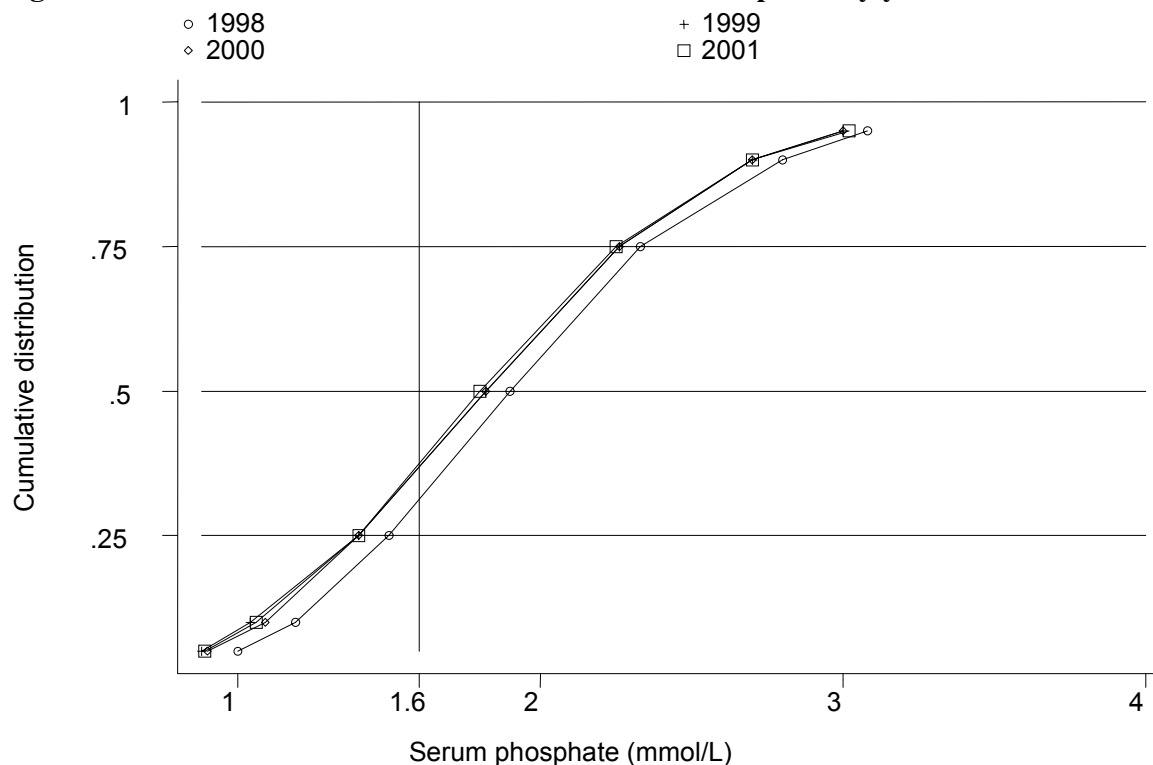


Table 3.1.30: Distribution of serum Calcium (mmol/l), HD patients, Government Centres 1998– 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients ≥ 2.2 & ≤ 2.6 mmol/l
1998	1621	5342	2.3	2.2	2.5	53
1999	1835	5972	2.3	2.1	2.5	52
2000	2049	6698	2.3	2.2	2.5	56
2001	2249	7437	2.4	2.2	2.5	57

Figure 3.1.30: Cumulative distribution of serum Calcium by year

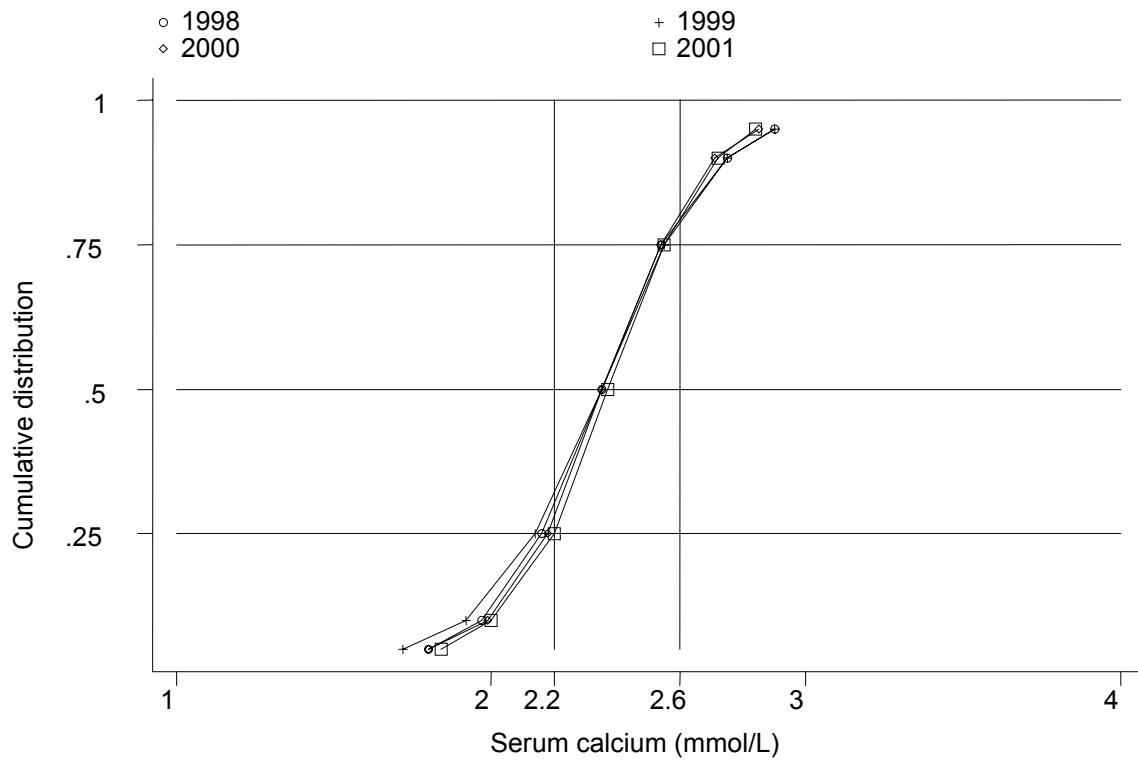
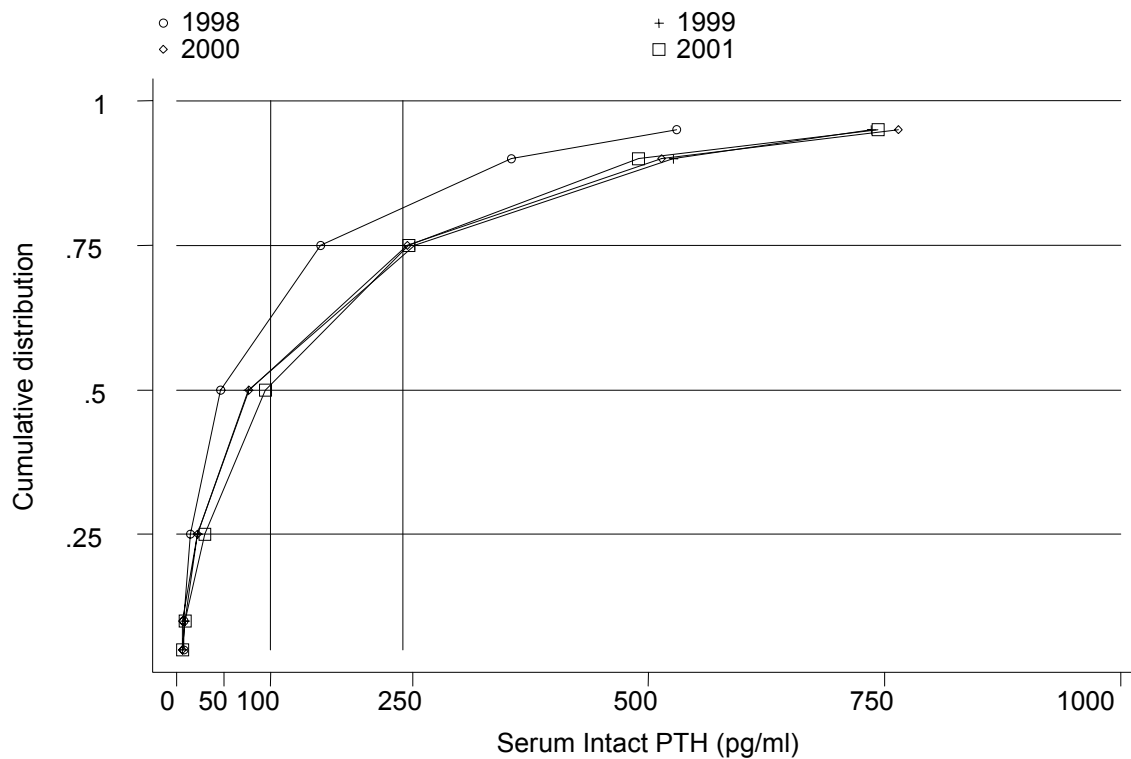


Table 3.1.31: Distribution of serum Ipth (ng/L), HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients ≥ 100 & ≤ 250 ng/l
1998	736	994	47	15	153	16
1999	1201	1814	76.2	22	252	19
2000	1534	2367	77	22	245	18
2001	1704	2724	94	30	246	23

Figure 3.1.31: Cumulative distribution of serum iPTH by year



3.1.11 MANAGEMENT OF BLOOD PRESSURE, GOVERNMENT CENTRES

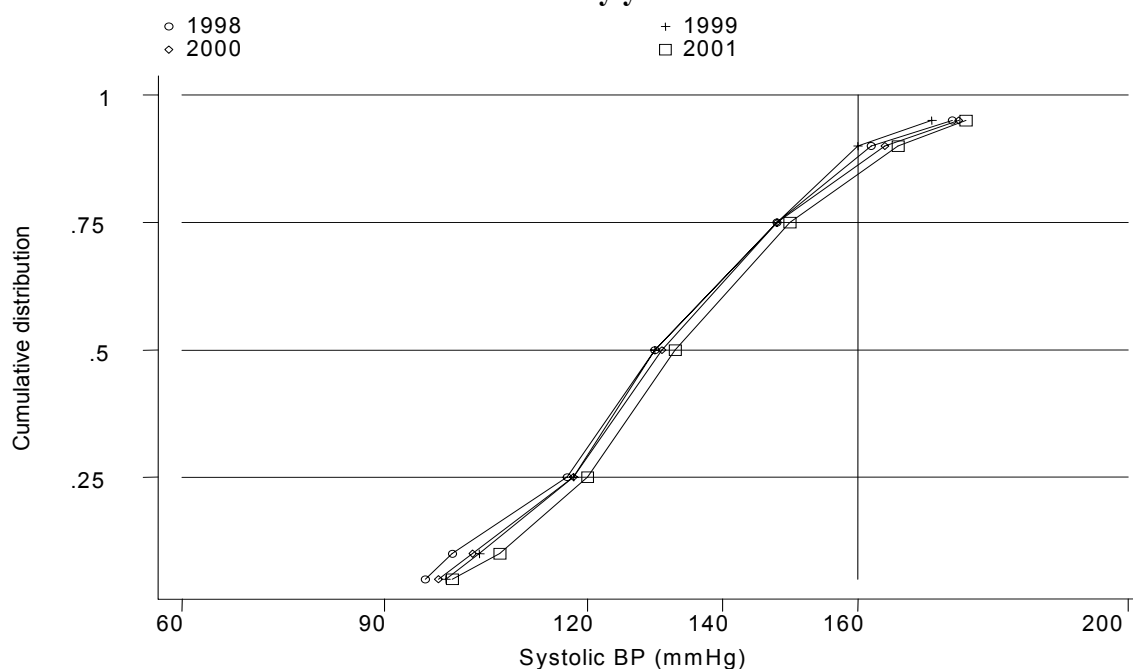
**Table 3.1.32: Treatment for hypertension, HD patients, Government Centres
1998 – 2001**

year	No.	% on anti-hypertensives	% on 1 anti-hypertensives	% on 2 anti-hypertensives	% on 3 anti-hypertensives
1998	1657	63	36	20	7
1999	1878	67	35	24	8
2000	2102	67	37	22	8
2001	2305	67	34	24	9

**Table 3.1.33: Distribution of Systolic BP without anti-hypertensives, HD patients,
Government Centres 1998 – 2001**

year	No of subjects	No of observations	median	LQ	UQ	% patients < 160 mmHg
1998	599	6370	130	117	148	86
1999	613	6285	130	118	148	88
2000	695	7358	131	118	148	86
2001	759	7824	133	120	150	85

**Figure 3.1.33: Cumulative distribution of Systolic BP without anti-hypertensives
by year**



**Table 3.1.34: Distribution of Diastolic BP without anti-hypertensives HD patients
Government Centres 1998– 2001**

Year	No of subjects	No of observations	median	LQ	UQ	% patients < 90 mmHg
1998	599	6368	80	70	88	77
1999	613	6282	79	70	86	81
2000	695	7362	79	70	87	78
2001	758	7821	78	70	86	80

**Figure 3.1.34: Cumulative distribution of Diastolic BP without anti hypertensives
by year**

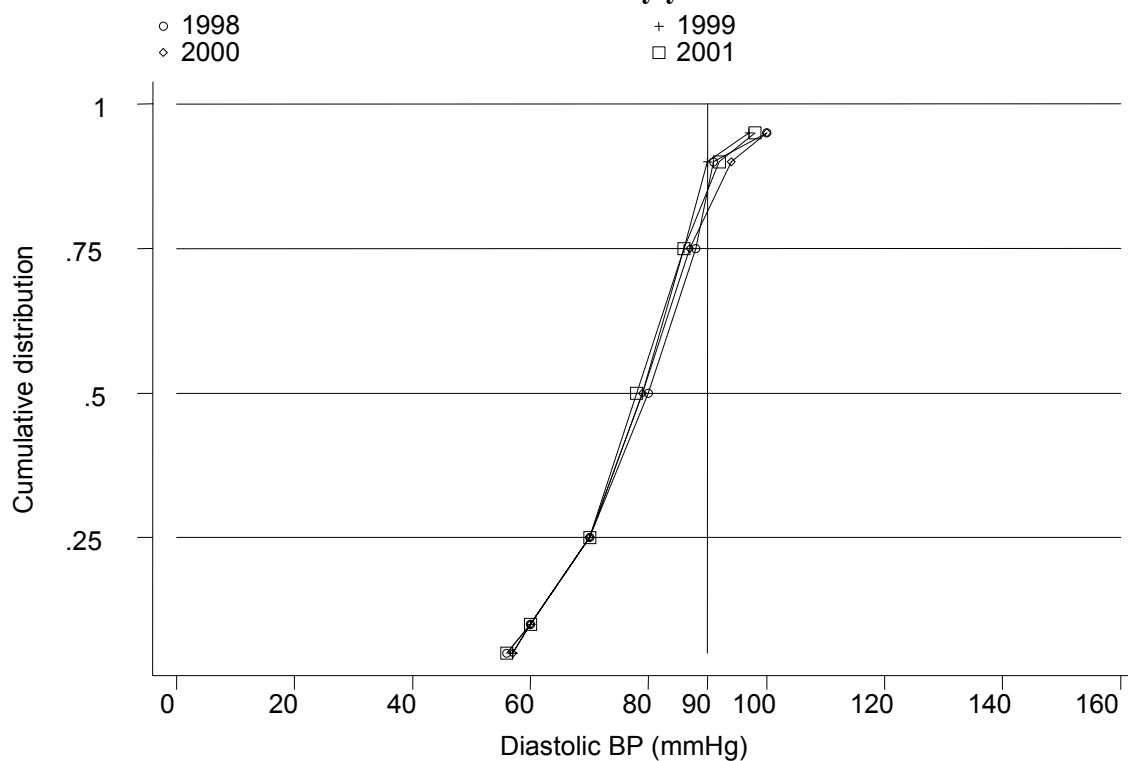


Table 3.1.35: Distribution of systolic BP on anti-hypertensives, HD patients, Government Centres 1998 – 2001

Year	No of subjects	No of observations	median	LQ	UQ	% patients < 160 mmHg
1998	1038	10542	150	137	167	62
1999	1249	12458	150	137	168	62
2000	1390	14196	150	134	169	63
2001	1532	15646	150	135	169	62

Figure 3.1.35: Cumulative distribution of systolic BP on anti-hypertensives by year

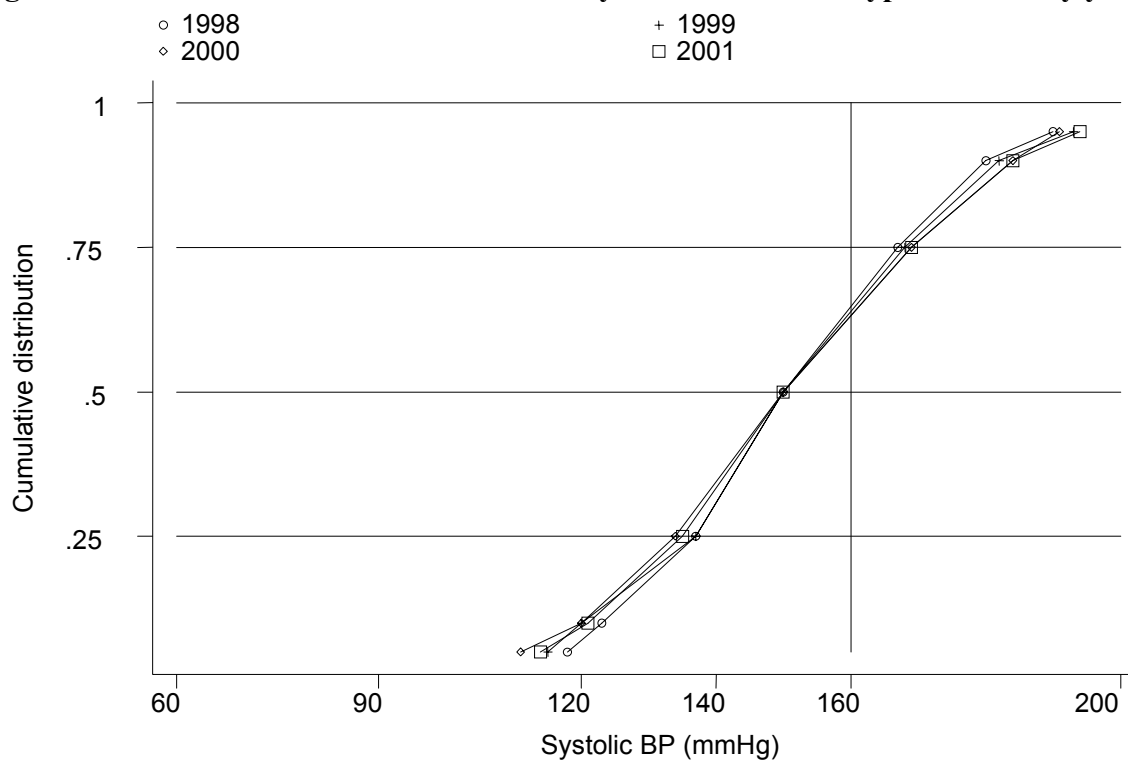
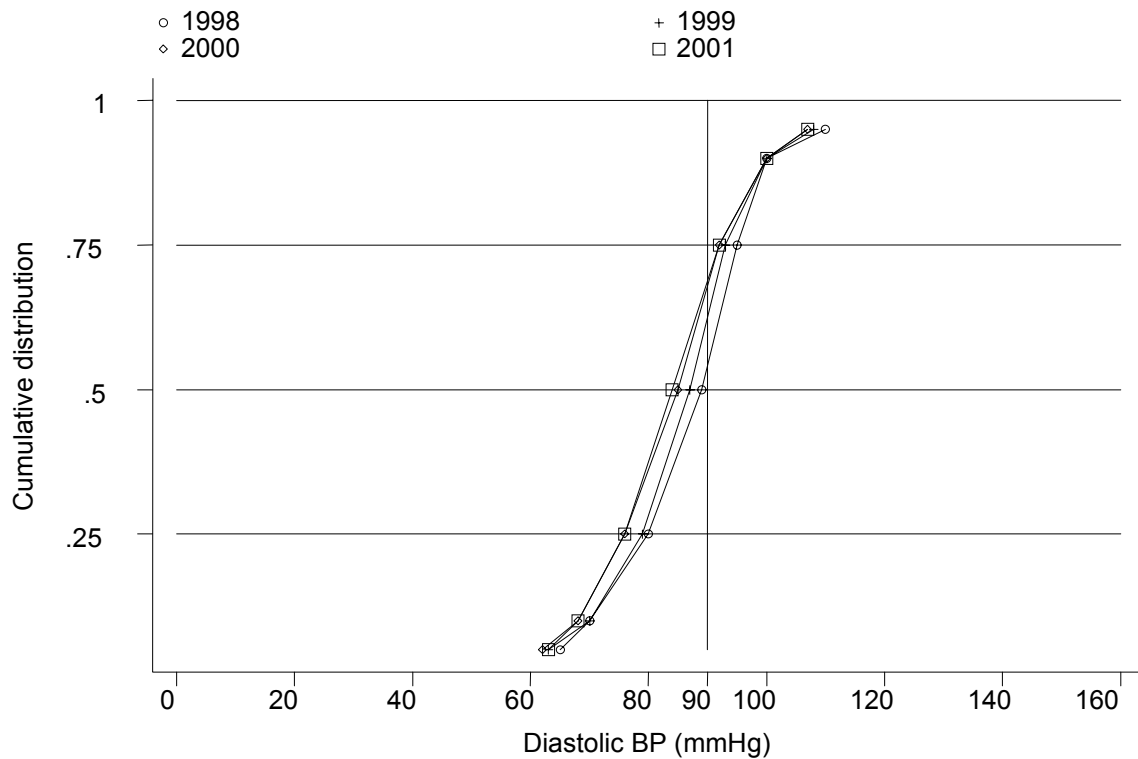


Table 3.1.36: Distribution of diastolic BP on anti-hypertensives, HD patients, Government Centres 1998– 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients < 90 mmHg
1998	1038	10547	89	80	95	51
1999	1249	12459	87	79	93	55
2000	1390	14206	85	76	92	58
2001	1532	15656	84	76	92	62

Figure 3.1.36: Cumulative distribution of diastolic BP on anti-hypertensives by year



3.1.12 TREATMENT OF ANAEMIA, GOVERNMENT HD CENTRES

Table 3.1.37: Treatment for Anaemia, HD patients, Government Centres 1998 – 2001

year	No	% on rHuEpo	% received blood transfusion	% on oral Iron	% received parenteral Iron
1998	1657	45	14	92	5
1999	1878	48	16	94	5
2000	2102	54	15	92	7
2001	2305	60	13	92	8

Table 3.1.38: Distribution of rHuEpo dose per week, HD patients, Government Centres 1998 – 2001

Year	1998	1999	2000	2001
No. of patients	691	864	1077	1355
% on 2000 u/week	17	19	21	19
% on 2-4000 u/week	61	60	57	59
% on 4-6000 u/week	7	6	7	7
% on 6-8000 u/week	13	14	11	12
% on 8-12000 u/week	2	2	4	3
% on >12000 u/week	0	0	0	0

Table 3.1.39: Distribution of serum Iron without rHuEpo, HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients > 10 umol/l
1998	588	1451	14	10	21	73
1999	647	1527	14.1	9.9	22.7	71
2000	671	1665	14	9.8	20	70
2001	673	1584	15	10.3	23.1	76

Figure 3.1.39: Cumulative Distribution of serum Iron without rHuEpo by year

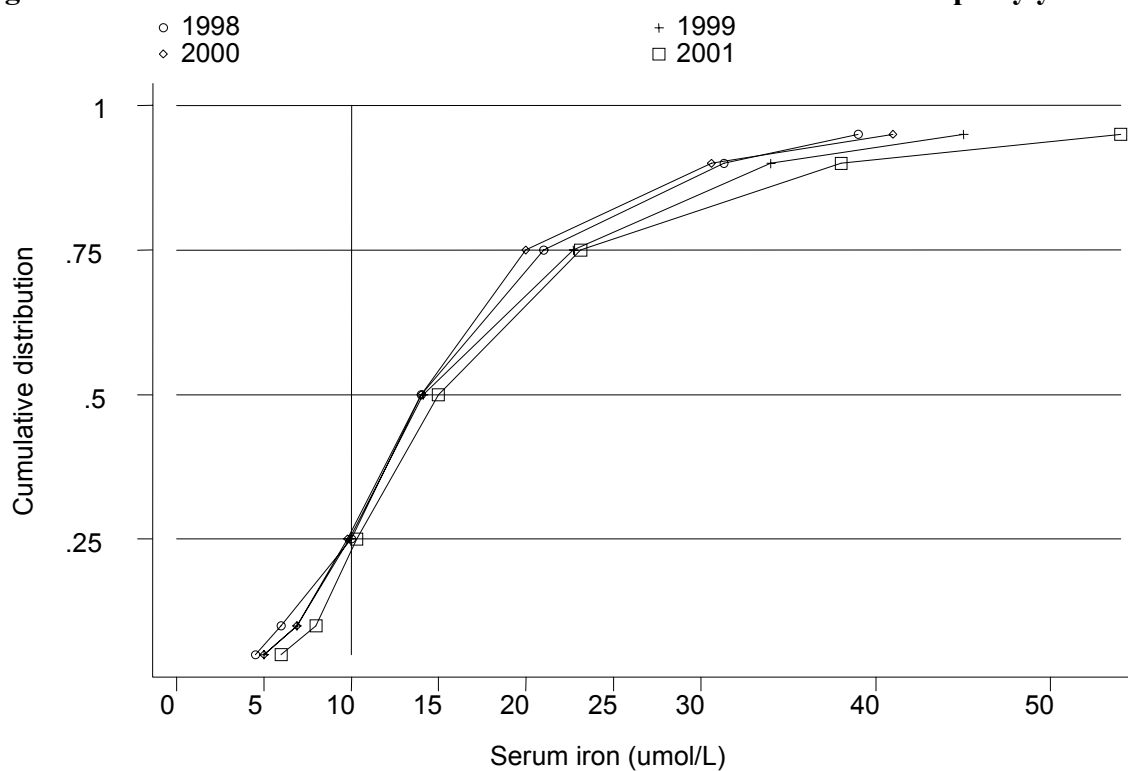


Table 3.1.40: Distribution of serum Iron on rHuEpo,HD patients, Government Centres 1998 – 2001

Year	No of subjects	No of observations	median	LQ	UQ	% patients > 10 umol/l
1998	522	1544	14.6	10	22	73
1999	638	1853	14	10	23	74
2000	909	2636	13.3	9.7	20.2	69
2001	1154	3323	14	10	22.6	71

Figure 3.1.40: Cumulative Distribution of serum Iron on rHuEpo by year

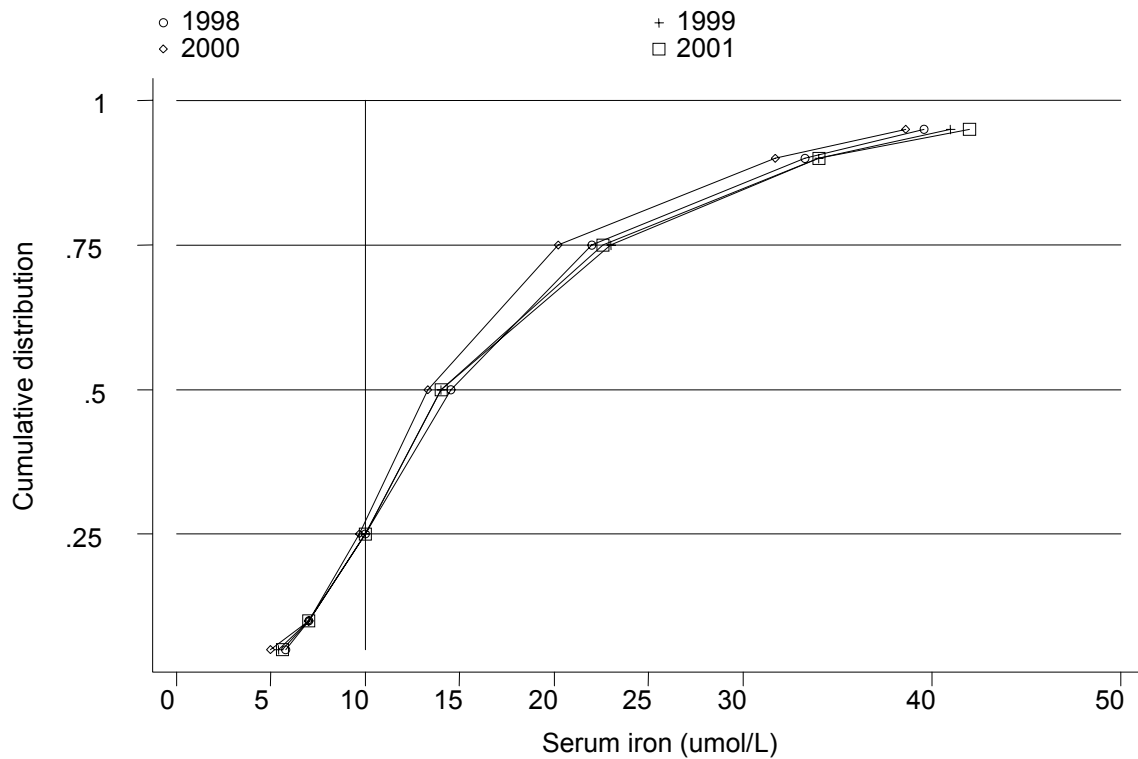


Table 3.1.41: Distribution of Transferrin Saturation without rHuEpo, HD patients, Government Centres 1998 – 2001

Year	No of subjects	No of observations	median	LQ	UQ	% patients > 20%
1998	411	1644	29.5	17.9	43.3	69
1999	389	1556	27.2	18.3	41.3	69
2000	567	2268	29.2	19.4	43.7	71
2001	586	2344	30.6	22.2	43.8	80

Figure 3.1.41: Cumulative distribution of serum Transferrin Saturation without rHuEpo by year

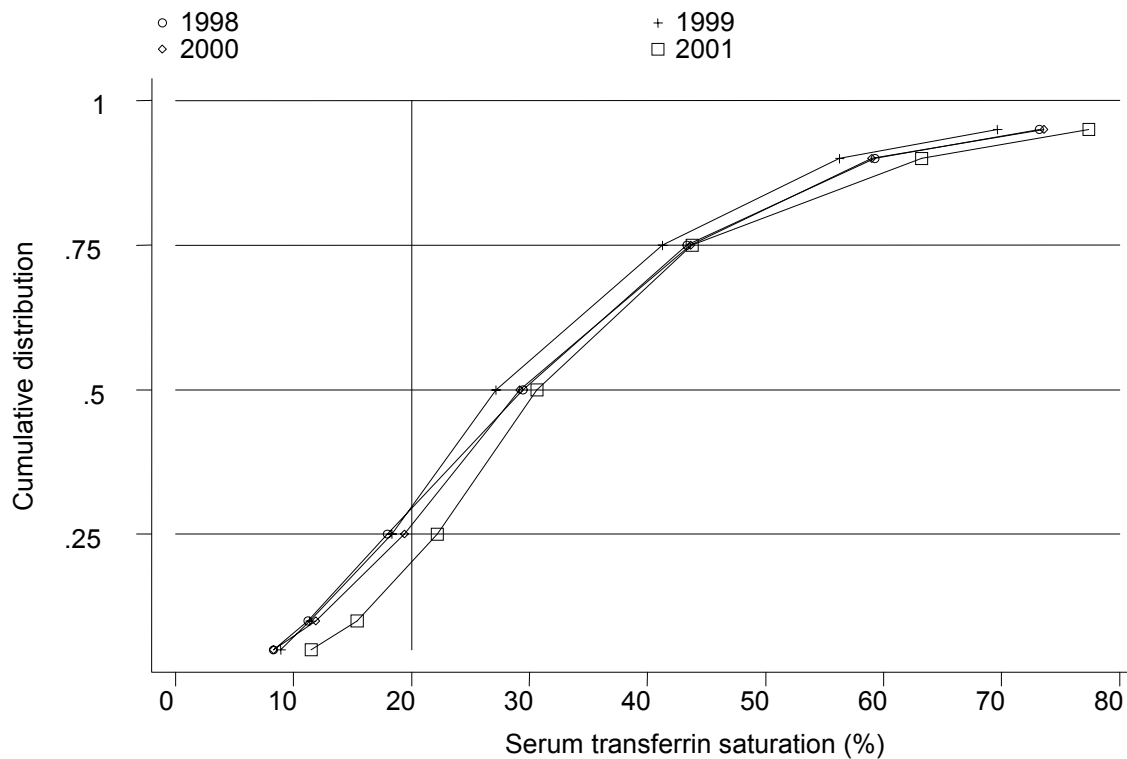


Table 3.1.42: Distribution of Transferrin Saturation on rHuEpo, HD patients, Government Centres 1998 – 2001

Year	No of subjects	No of observations	median	LQ	UQ	% patients > 20%
1998	416	1664	31.2	21.9	44.8	81
1999	481	1924	30.2	21	42.4	78
2000	850	3400	29.7	20.1	42.9	75
2001	1061	4244	31.9	22.7	48	80

Figure 3.1.42: Cumulative distribution of serum Transferrin Saturation on rHuEpo by year

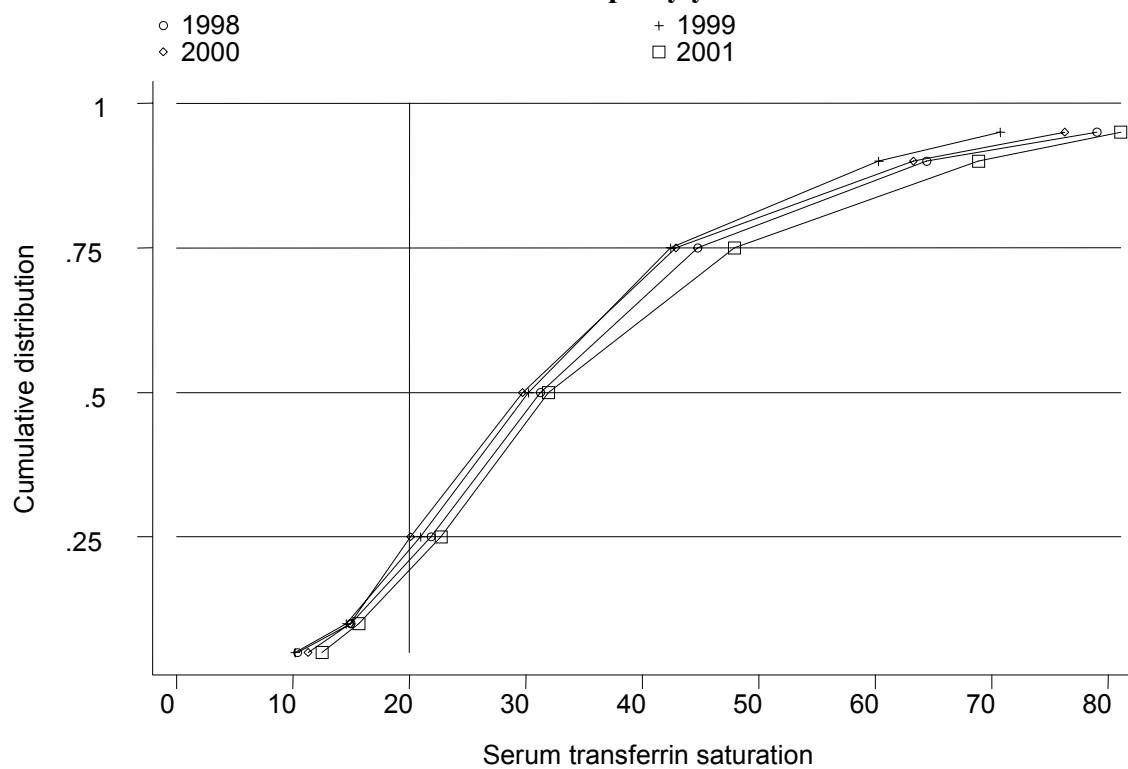


Table 3.1.43: Distribution of serum Ferritin without rHuEpo, HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients > 100 ug/l
1998	187	252	249.5	117.5	594.9	79
1999	292	441	385	157.9	828	85
2000	380	580	314.9	131.4	742	80
2001	448	714	352.1	154	775.9	85

Figure 3.1.43: Cumulative distribution of serum Ferritin without rHuEpo by year

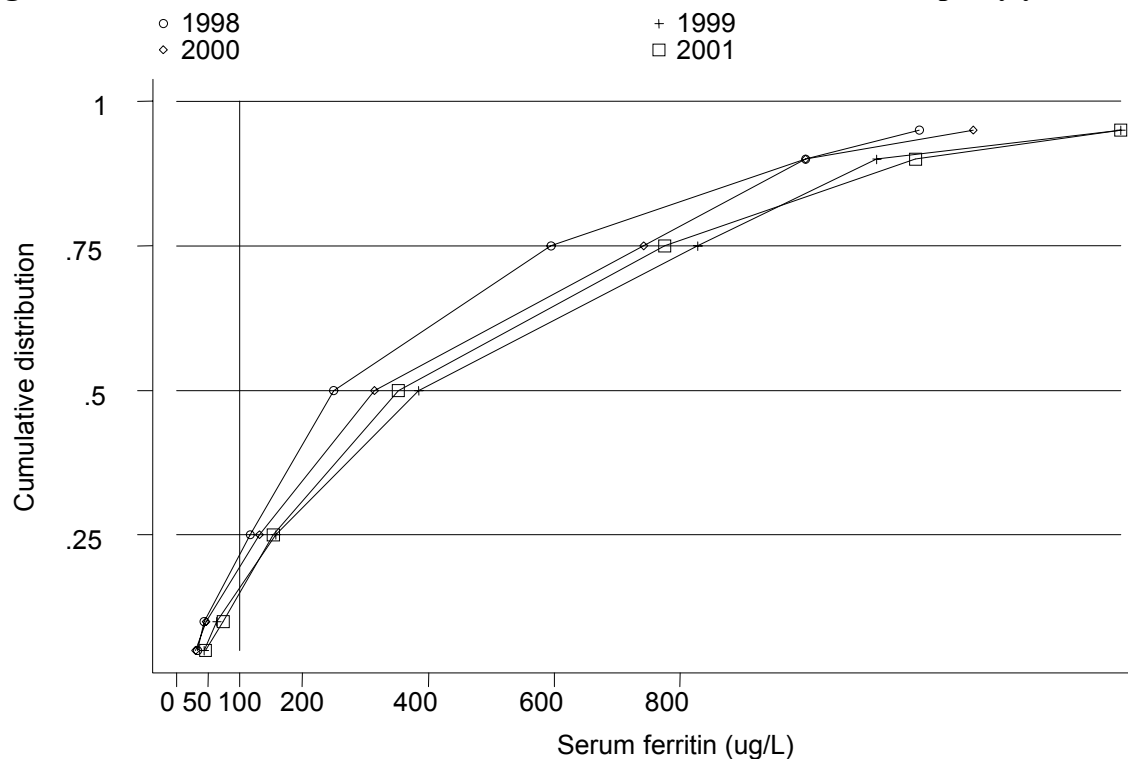


Table 3.1.44: Distribution of serum Ferritin on rHuEpo, HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients > 100 ug/l
1998	288	436	478.8	221.5	841.5	91
1999	442	693	431	211	844	91
2000	705	1160	405.1	185	835	89
2001	883	1520	433.3	206.8	887.5	88

Figure 3.1.44: Cumulative distribution of serum Ferritin on rHuEpo by year

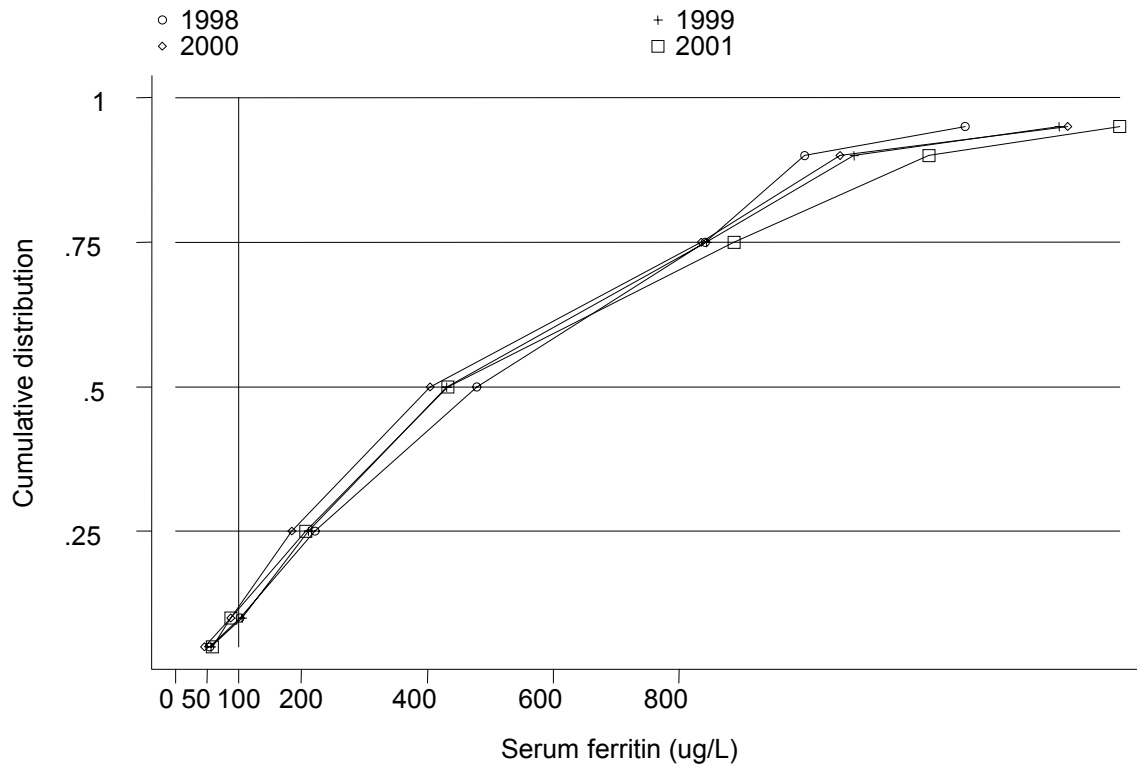


Table 3.1.45: Distribution of Haemoglobin concentration without rHuEpo, HD patients, Government Centres 1998 – 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients <10 g/dl	% patients ≥ 10 & ≤ 12 g/dl	% patients >12 g/dl
1998	887	2781	9	7.8	10.6	66	23	10
1999	951	2911	9.2	7.7	10.7	63	27	10
2000	938	2843	9.5	8	11	58	27	15
2001	889	2700	9.7	8.3	11.2	54	31	15

Figure 3.1.45: Cumulative distribution of Haemoglobin concentration without rHuEpo by year

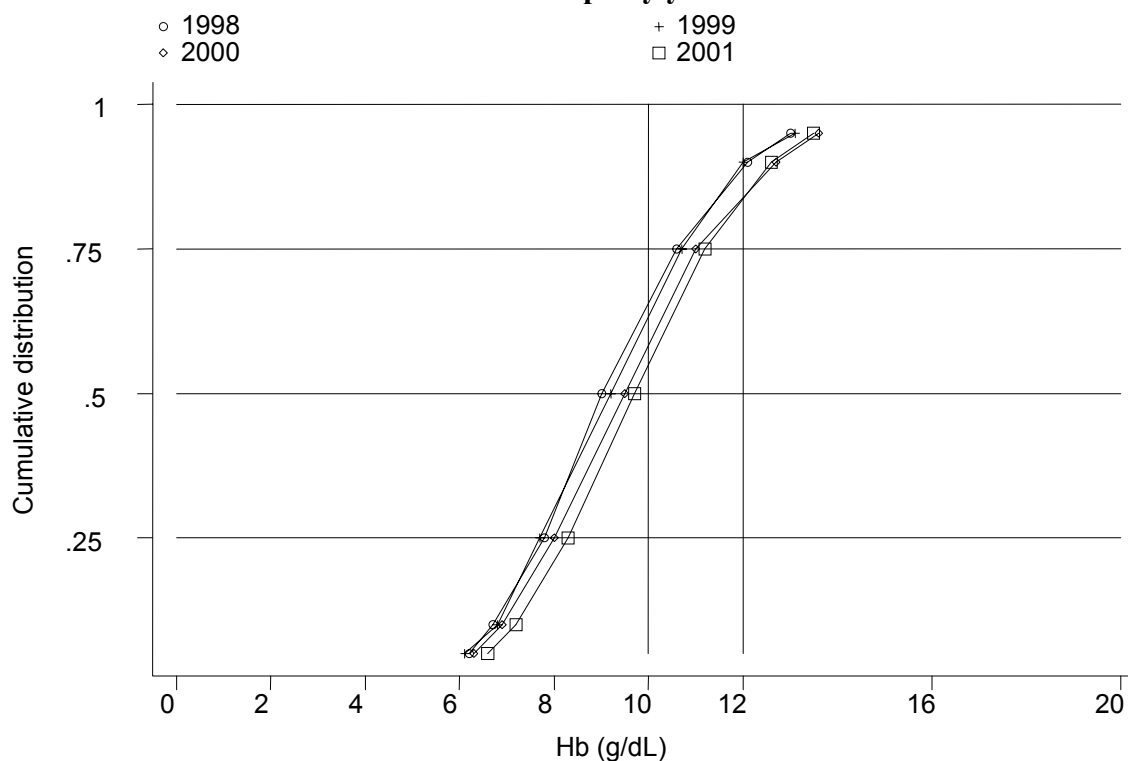
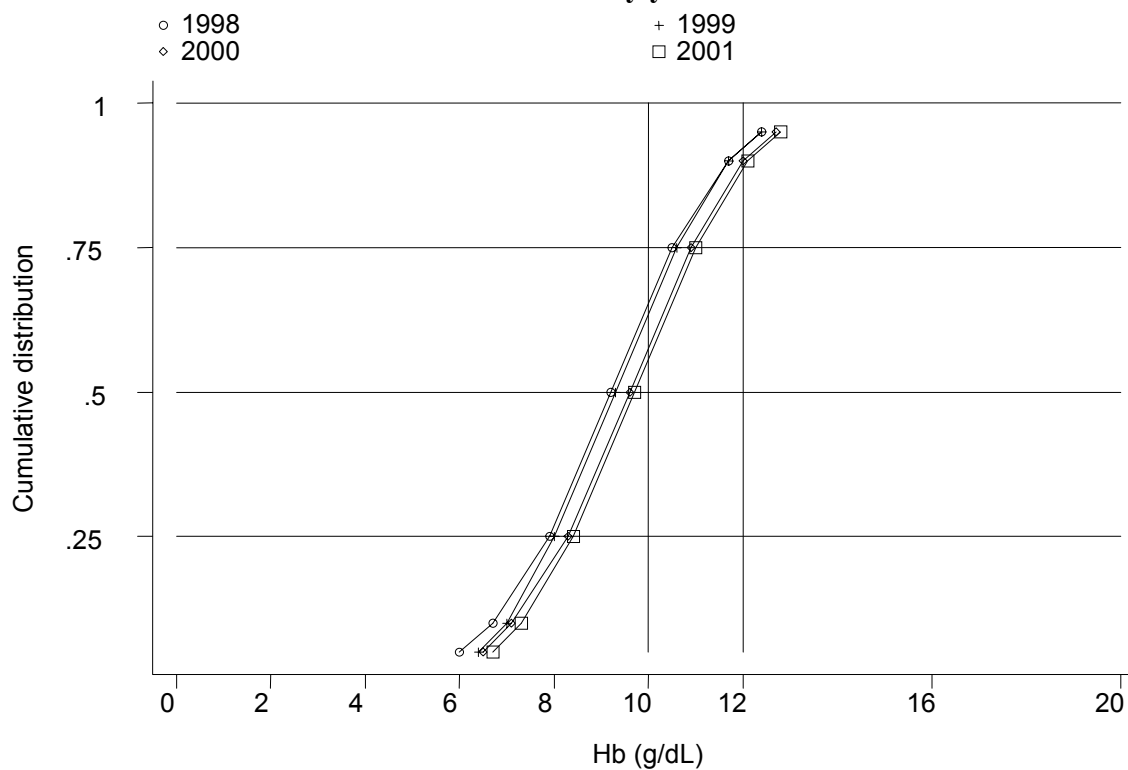


Table 3.1.46: Distribution of Haemoglobin concentration on rHuEpo, HD patients, Government Centres 1998 – 2001

Year	No of subjects	No of observations	median	LQ	UQ	% patients <10 g/dl	% patients ≥ 10 & ≤ 12 g/dl	% patients >12 g/dl
1998	742	2675	9.2	7.9	10.5	64	29	7
1999	900	3208	9.3	8	10.6	63	30	8
2000	1118	4030	9.6	8.3	10.9	56	34	10
2001	1367	4873	9.7	8.4	11	55	35	10

Figure 3.1.46: Cumulative distribution of Haemoglobin concentration on rHuEpo, by year

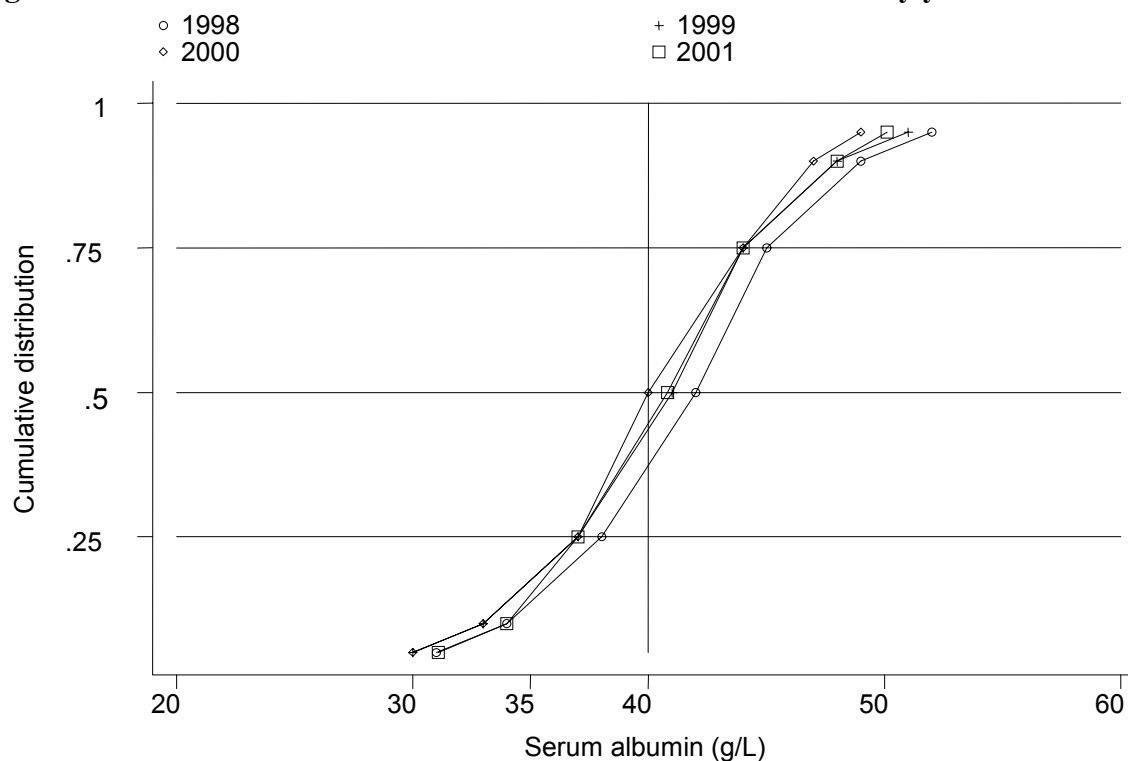


3.1.13 NUTRITIONAL STATUS OF HD PATIENTS GOVERNMENT CENTRES

Table 3.1.47: Distribution of serum Albumin (g/L), HD patients, Government Centres 1998 - 2001

year	No of subjects	No of observations	median	LQ	UQ	% patients >40g/l
1998	1620	5354	42	38	45	65
1999	1823	5933	41	37	44	60
2000	2007	6519	40	37	44	56
2001	2239	7448	40.8	37	44	58

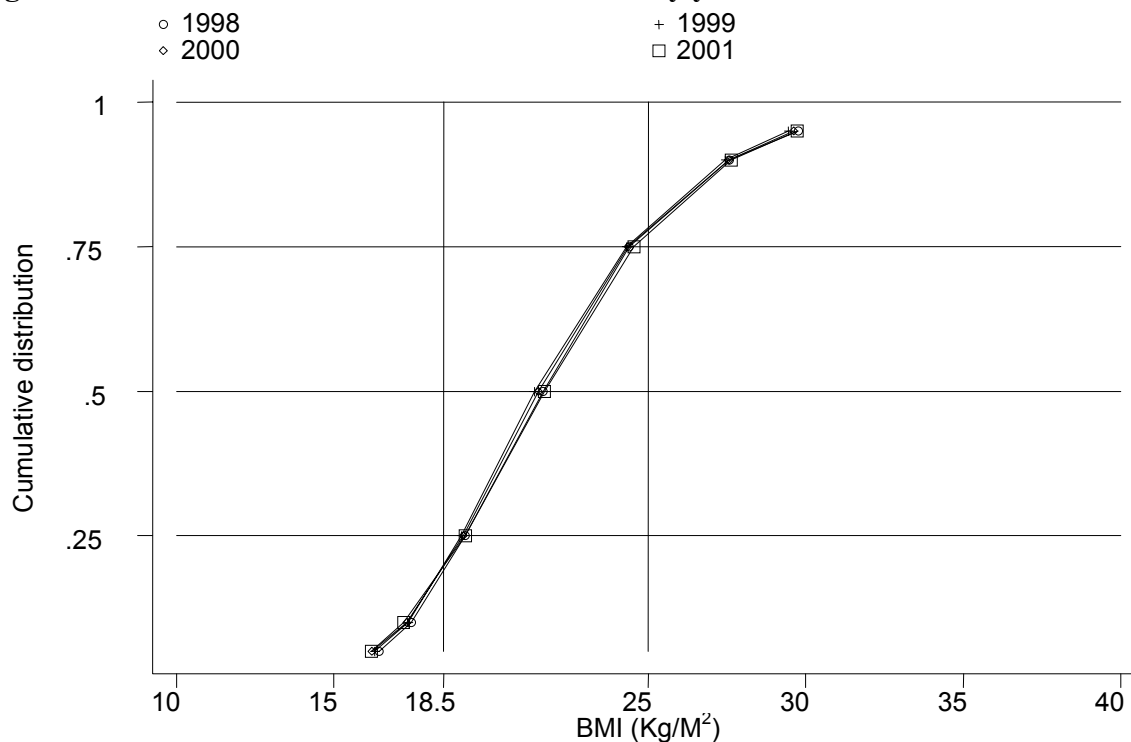
Figure 3.1.47: Cumulative distribution of serum Albumin by year



**Table 3.1.48: Distribution of Body Mass Index, HD patients, Government Centres
1998 – 2001**

year	No of subjects	No of observations	median	LQ	UQ	% patients <18.5	% patients ≥ 18.5 & ≤ 25	% patients >25
1998	1559	16089	21.6	19.2	24.4	18	61	21
1999	1774	17814	21.4	19.1	24.3	19	60	20
2000	1977	20447	21.5	19.1	24.3	19	60	21
2001	2161	22090	21.7	19.2	24.5	19	59	22

Figure 3.1.48: Cumulative distribution of BMI by year



3.1.14 SEROLOGICAL STATUS, HD PATIENTS GOVERNMENT CENTRES

Table 3.1.49: Prevalence of positive anti-HCV and HbsAg, HD patients, Government Centres 1998– 2001

year	No	% HbsAg positive	% anti-HCV positive
1998	1657	6	22
1999	1878	6	25
2000	2102	6	29
2001	2305	6	28

Figure 3.1.49: Prevalence of positive anti-HCV and HbsAg, HD patients, Government Centres 1998 – 2001

