

# **CHAPTER 11**

## **Haemodialysis Practices**

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**Table 11.1.1: Vascular Access on Haemodialysis, 2001-2010**

Access types	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
Wrist AVF	4049	79	4680	78	5249	75	5891	73	6405	69
BCF*	897	17	1068	18	1359	20	1693	21	2169	23
Venous graft	19	0	14	0	23	0	41	1	30	0
Artificial graft	64	1	78	1	113	2	149	2	221	2
Permanent CVC	25	1	43	1	61	1	99	1	179	2
Temporary CVC*	90	2	138	2	179	3	233	3	266	3
Temporary FVC*	0	0	0	0	0	0	0	0	4	0
<b>TOTAL</b>	<b>5144</b>	<b>100</b>	<b>6021</b>	<b>100</b>	<b>6984</b>	<b>100</b>	<b>8106</b>	<b>100</b>	<b>9274</b>	<b>100</b>

Access types	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
Wrist AVF	7798	68	8309	65	9491	62	10665	61	10985	58
BCF*	2856	25	3421	27	4403	29	5243	30	6016	32
Venous graft	22	0	37	0	19	0	32	0	49	0
Artificial graft	284	3	305	2	351	2	379	2	379	2
Permanent CVC	235	2	261	2	298	2	465	3	507	3
Temporary CVC*	298	3	424	3	579	4	770	4	803	4
Temporary FVC*	19	0	25	0	59	0	46	0	71	0
<b>TOTAL</b>	<b>11512</b>	<b>100</b>	<b>12782</b>	<b>100</b>	<b>15200</b>	<b>100</b>	<b>17600</b>	<b>100</b>	<b>18810</b>	<b>100</b>

**Table 11.1.2: Difficulties report with Vascular Access, 2001-2010**

Access difficulty	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
Difficulty with needle placement	217	5	215	4	217	3	255	3	319	4
Difficulty in obtaining desired blood flow rate	239	5	235	4	243	4	301	4	354	4
Other difficulties	39	1	57	1	60	1	67	1	58	1
No difficulties	4276	90	5073	91	5970	92	6957	92	8339	92
<b>TOTAL</b>	<b>4771</b>	<b>100</b>	<b>5580</b>	<b>100</b>	<b>6490</b>	<b>100</b>	<b>7580</b>	<b>100</b>	<b>9070</b>	<b>100</b>

Access difficulty	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
Difficulty with needle placement	394	4	478	4	417	3	522	3	550	3
Difficulty in obtaining desired blood flow rate	356	3	368	3	420	3	473	3	427	2
Other difficulties	45	0	57	1	81	1	101	1	78	0
No difficulties	10592	93	11577	93	14076	94	16483	94	17828	94
<b>TOTAL</b>	<b>11387</b>	<b>100</b>	<b>12480</b>	<b>100</b>	<b>14994</b>	<b>100</b>	<b>17579</b>	<b>100</b>	<b>18883</b>	<b>100</b>

# Table 11.1.3: Complications reported with Vascular Access, 2001-2010

Complication	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
Thrombosis	209	4	202	4	220	3	284	4	289	3
Bleed	62	1	66	1	54	1	67	1	73	1
Aneurysmal dilatation	212	4	211	4	199	3	193	2	179	2
Swollen limb	67	1	56	1	55	1	77	1	84	1
Access related infection, local/systemic	49	1	52	1	43	1	70	1	63	1
Distal limb ischaemia	22	0	17	0	13	0	37	1	35	0
Venous outflow obstruction	123	2	101	2	119	2	151	2	170	2
Carpal tunnel	41	1	44	1	63	1	49	1	55	1
Others	74	2	118	2	118	2	133	2	109	1
No complications	4204	83	4988	85	5963	87	6896	87	8113	89
<b>TOTAL</b>	<b>5063</b>	<b>100</b>	<b>5855</b>	<b>100</b>	<b>6847</b>	<b>100</b>	<b>7957</b>	<b>100</b>	<b>9170</b>	<b>100</b>

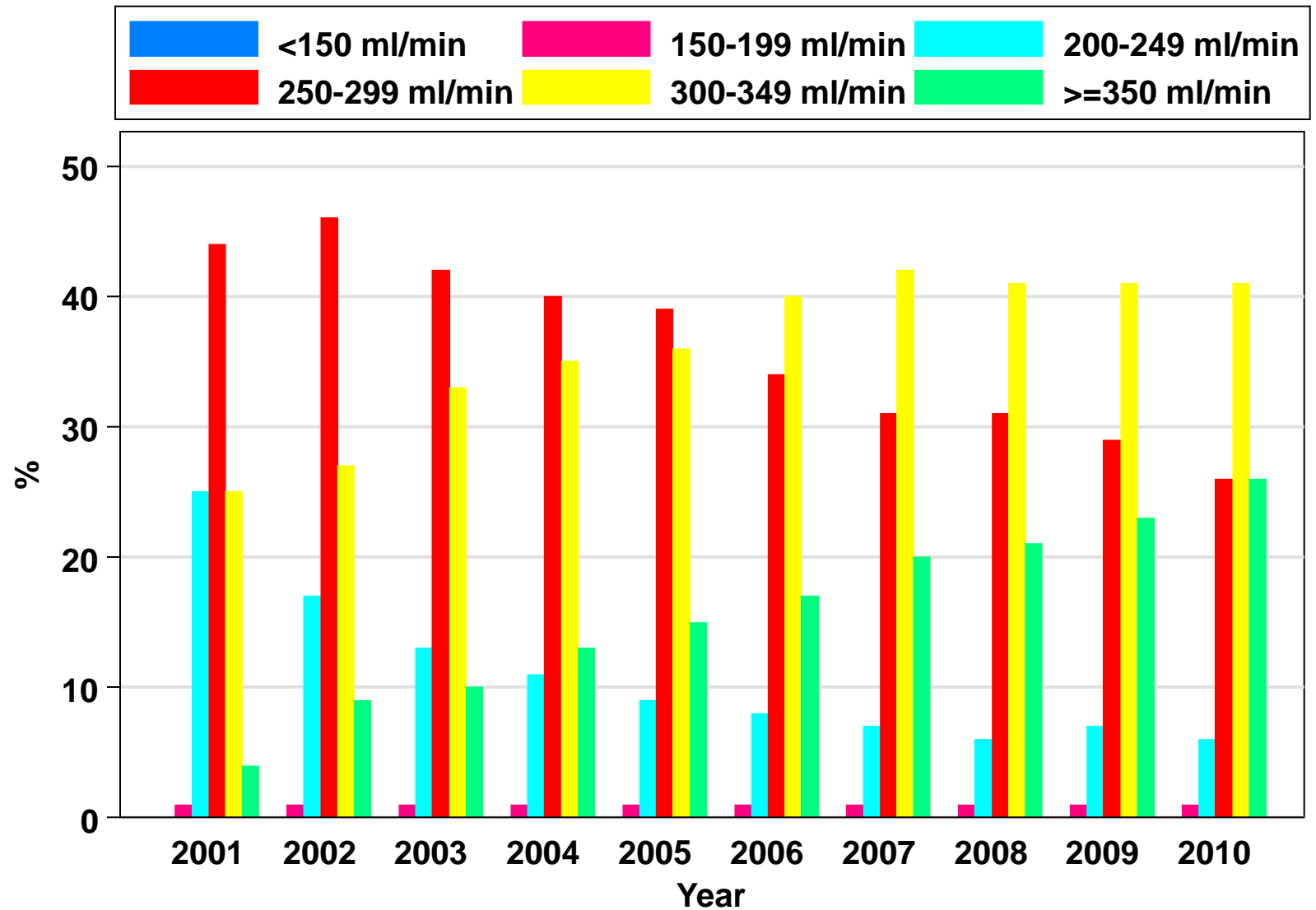
Complication	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
Thrombosis	317	3	405	3	436	3	481	3	460	2
Bleed	69	1	58	1	76	1	72	0	78	0
Aneurysmal dilatation	246	2	385	3	396	3	452	3	319	2
Swollen limb	89	1	101	1	98	1	162	1	150	1
Access related infection, local/systemic	78	1	97	1	92	1	133	1	123	1
Distal limb ischaemia	30	0	27	0	31	0	25	0	33	0
Venous outflow obstruction	202	2	196	2	250	2	299	2	234	1
Carpal tunnel	48	0	46	0	48	0	48	0	44	0
Others	116	1	152	1	165	1	119	1	122	1
No complications	10154	90	11052	88	13517	90	15867	90	17356	92
<b>TOTAL</b>	<b>11349</b>	<b>100</b>	<b>12519</b>	<b>100</b>	<b>15109</b>	<b>100</b>	<b>17658</b>	<b>100</b>	<b>18919</b>	<b>100</b>

**Table 11.2.1: Blood Flow Rates in HD centers, 2001-2010**

Blood flow rates (ml/min)	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
<150	7	0	9	0	4	0	11	0	7	0
150-199	69	1	69	1	84	1	86	1	94	1
200-249	1233	25	973	17	882	13	879	11	814	9
250-299	2229	44	2692	46	2865	42	3112	40	3523	39
300-349	1276	25	1590	27	2241	33	2711	35	3226	36
>=350	216	4	505	9	690	10	1020	13	1328	15
<b>TOTAL</b>	<b>5030</b>	<b>100</b>	<b>5838</b>	<b>100</b>	<b>6766</b>	<b>100</b>	<b>7819</b>	<b>100</b>	<b>8992</b>	<b>100</b>

Blood flow rates (ml/min)	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
<150	5	0	10	0	10	0	14	0	16	0
150-199	103	1	87	1	120	1	126	1	111	1
200-249	923	8	929	7	928	6	1179	7	1174	6
250-299	3818	34	3821	31	4638	31	5050	29	4944	27
300-349	4529	40	5214	42	6127	41	7093	41	7610	41
>=350	1920	17	2451	20	3094	21	3977	23	4807	26
<b>TOTAL</b>	<b>11298</b>	<b>100</b>	<b>12512</b>	<b>100</b>	<b>14917</b>	<b>100</b>	<b>17439</b>	<b>100</b>	<b>18662</b>	<b>100</b>

# Figure 11.2.1: Blood Flow Rates in HD centers, 2001-2010



**Table 11.2.2: Number of HD Sessions per week, 2001-2010**

HD sessions per week	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
<b>1</b>	<b>8</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>7</b>	<b>0</b>
<b>2</b>	<b>337</b>	<b>7</b>	<b>369</b>	<b>6</b>	<b>343</b>	<b>5</b>	<b>281</b>	<b>4</b>	<b>265</b>	<b>3</b>
<b>3</b>	<b>4761</b>	<b>92</b>	<b>5603</b>	<b>93</b>	<b>6585</b>	<b>95</b>	<b>7751</b>	<b>96</b>	<b>9011</b>	<b>97</b>
<b>4</b>	<b>50</b>	<b>1</b>	<b>18</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>31</b>	<b>0</b>
<b>TOTAL</b>	<b>5156</b>	<b>100</b>	<b>6000</b>	<b>100</b>	<b>6952</b>	<b>100</b>	<b>8073</b>	<b>100</b>	<b>9314</b>	<b>100</b>

HD sessions per week	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
<b>1</b>	<b>25</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>9</b>	<b>0</b>
<b>2</b>	<b>273</b>	<b>2</b>	<b>256</b>	<b>2</b>	<b>259</b>	<b>2</b>	<b>269</b>	<b>2</b>	<b>307</b>	<b>2</b>
<b>3</b>	<b>11326</b>	<b>97</b>	<b>12602</b>	<b>98</b>	<b>15054</b>	<b>98</b>	<b>17575</b>	<b>98</b>	<b>18828</b>	<b>98</b>
<b>4</b>	<b>34</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>88</b>	<b>1</b>	<b>47</b>	<b>0</b>
<b>TOTAL</b>	<b>11658</b>	<b>100</b>	<b>12903</b>	<b>100</b>	<b>15379</b>	<b>100</b>	<b>17938</b>	<b>100</b>	<b>19191</b>	<b>100</b>

**Table 11.2.3: Duration of HD, 2001-2010**

Duration of HD per session (hours)	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
<=3	8	0	18	0	14	0	25	0	31	0
3.5	12	0	15	0	3	0	11	0	9	0
4	4988	97	5854	98	6798	98	7885	98	9175	99
4.5	93	2	60	1	66	1	106	1	46	1
5	59	1	47	1	63	1	45	1	52	1
>5	0	0	0	0	0	0	3	0	0	0
<b>TOTAL</b>	<b>5160</b>	<b>100</b>	<b>5994</b>	<b>100</b>	<b>6944</b>	<b>100</b>	<b>8075</b>	<b>100</b>	<b>9313</b>	<b>100</b>

Duration of HD per session	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
<=3	28	0	37	0	54	0	66	0	60	0
3.5	6	0	11	0	10	0	25	0	36	0
4	11507	99	12792	99	15200	99	17733	99	18985	99
4.5	66	1	23	0	74	1	78	0	72	0
5	42	0	31	0	42	0	42	0	50	0
>5	1	0	1	0	0	0	1	0	0	0
<b>TOTAL</b>	<b>11650</b>	<b>100</b>	<b>12895</b>	<b>100</b>	<b>15380</b>	<b>100</b>	<b>17945</b>	<b>100</b>	<b>19203</b>	<b>100</b>

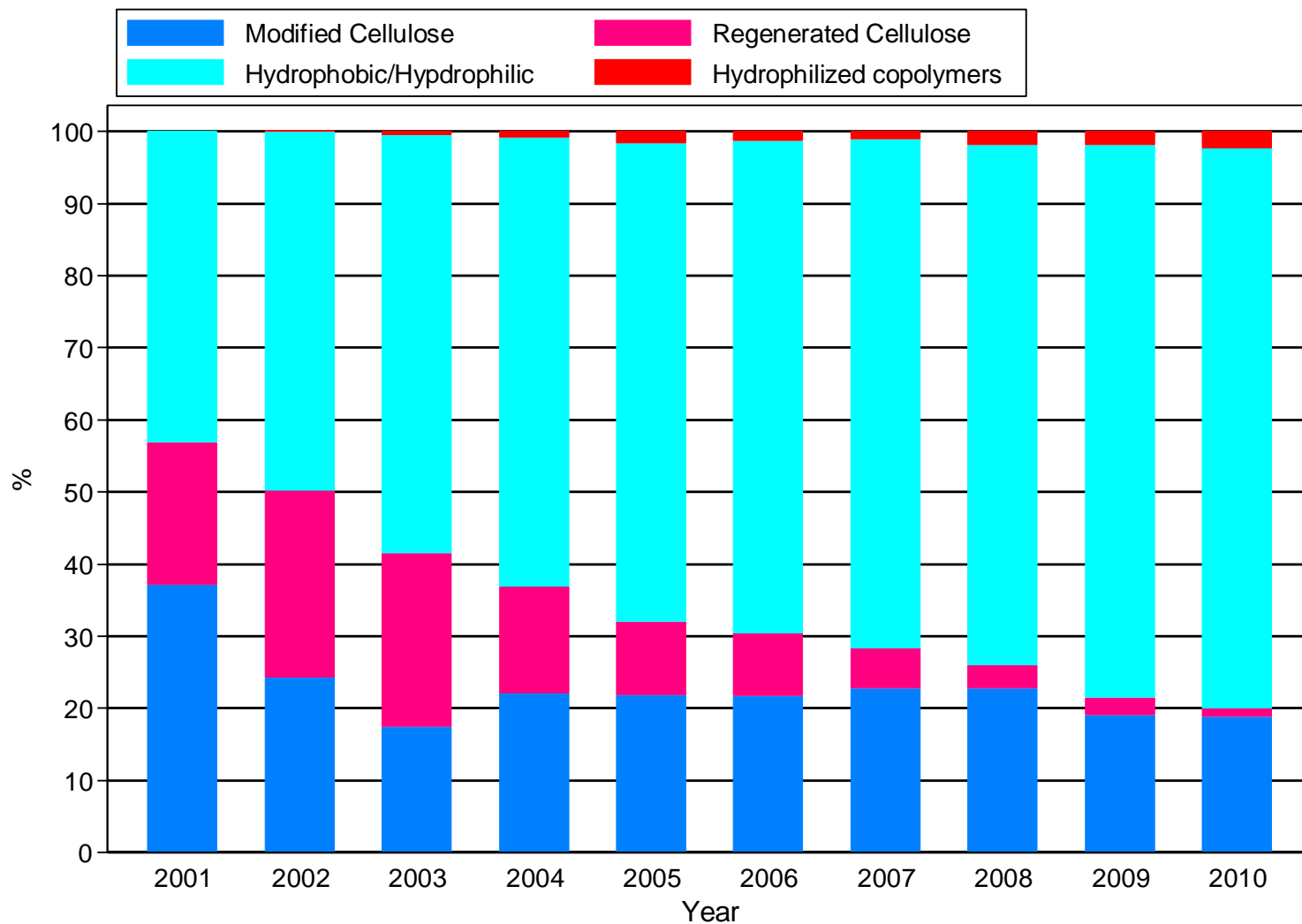


**Table 11.2.4: Dialyser membrane types in HD centres, 2001-2010**

Dialyser membrane	2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%
<b>Modified Cellulose</b>	1666	37	1377	24	1150	17	1719	22	1974	22
<b>Regenerated Cellulose</b>	890	20	1474	26	1599	24	1150	15	930	10
<b>Hydrophobic/ Hypdrophilic</b>	1944	43	2828	50	3841	58	4846	62	6020	66
<b>Hydrophilized copolymers</b>	0	0	1	0	35	1	74	1	150	2
<b>TOTAL</b>	4500	100	5680	100	6625	100	7789	100	9074	100

Dialyser membrane	2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%
<b>Modified Cellulose</b>	2489	22	2890	23	3431	23	3241	19	3242	19
<b>Regenerated Cellulose</b>	997	9	699	6	486	3	418	3	202	1
<b>Hydrophobic/ Hypdrophilic</b>	7860	68	8984	71	10886	72	13053	77	13410	78
<b>Hydrophilized copolymers</b>	161	1	137	1	286	2	335	2	409	2
<b>TOTAL</b>	11507	100	12710	100	15089	100	17047	100	17263	100

**Figure 11.2.4: Dialyser membrane types in HD centres, 2001-2010**



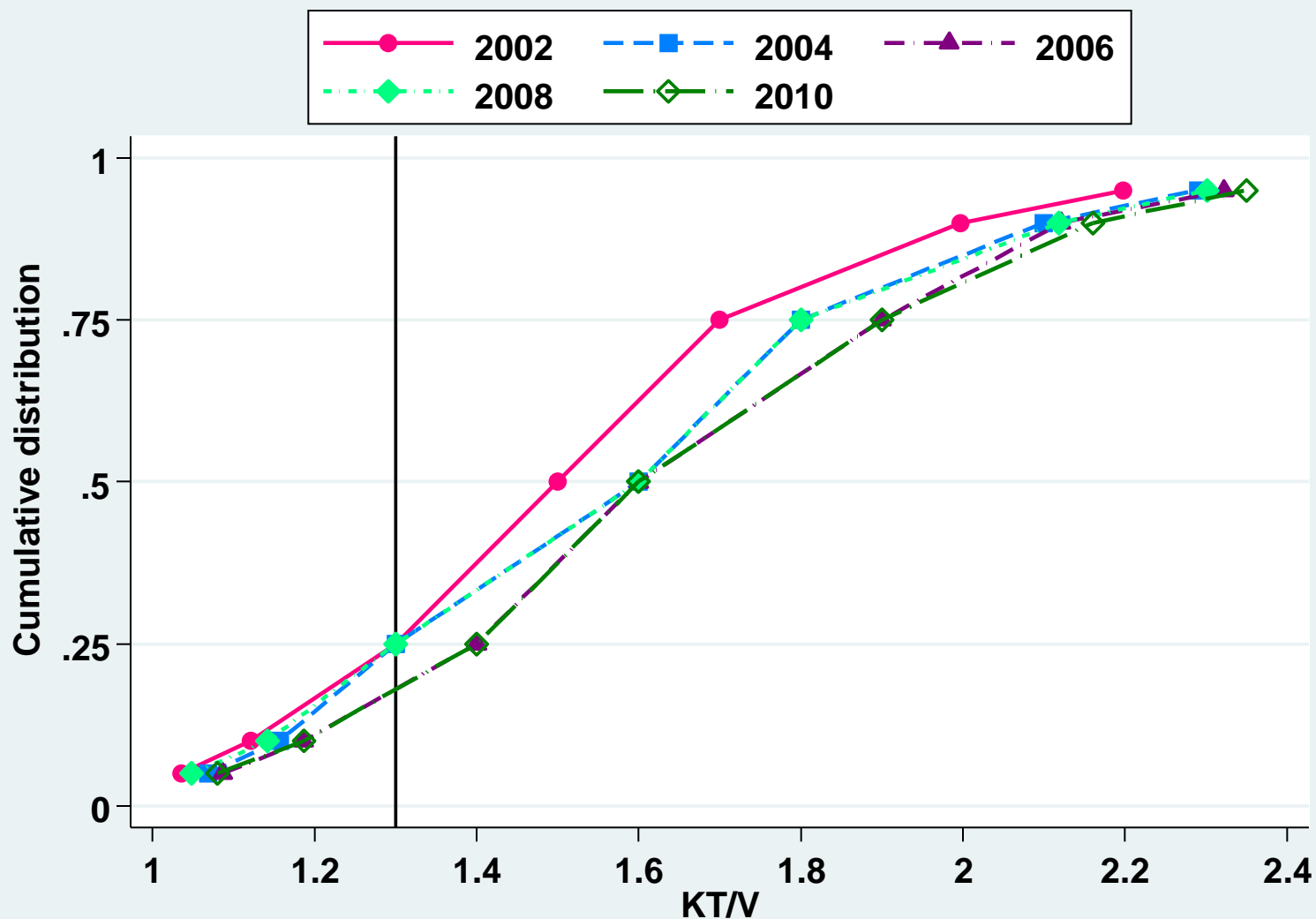
## Table 11.2.5: Dialyser Re-use Frequency in HD centres, 2001-2010

Dialyser Reuse Frequency	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	152	3	197	4	251	4	319	5	196	5	400	6	568	6	810	7	1175	8	1493	10
2	15	0	41	1	19	0	42	1	1	0	5	0	24	0	29	0	29	0	22	0
3	232	5	316	6	349	6	194	3	81	2	36	1	117	1	87	1	115	1	53	0
4	416	9	337	7	339	6	192	3	85	2	75	1	151	2	120	1	89	1	72	1
5	357	8	318	6	267	5	192	3	137	3	190	3	128	1	168	1	184	1	100	1
6	1413	31	1216	24	915	16	806	13	555	13	593	9	809	8	699	6	743	5	561	4
7	85	2	124	2	71	1	89	1	44	1	63	1	141	1	156	1	193	1	285	2
8	793	17	866	17	852	15	809	13	477	11	422	7	797	8	844	7	774	6	858	6
9	132	3	59	1	87	2	50	1	46	1	115	2	107	1	247	2	294	2	345	2
10	400	9	538	11	880	15	1160	19	770	18	959	15	1530	15	2009	16	2651	19	2389	16
11	43	1	36	1	25	0	42	1	12	0	100	2	94	1	101	1	58	0	120	1
12	470	10	879	17	1511	26	1916	31	1353	31	2243	35	4075	41	5266	43	5691	41	5858	39
≥ 13	84	2	175	3	280	5	458	7	565	13	1185	19	1440	14	1783	15	2010	14	2819	19
<b>TOTAL</b>	<b>4592</b>	<b>100</b>	<b>5102</b>	<b>100</b>	<b>5846</b>	<b>100</b>	<b>6269</b>	<b>100</b>	<b>4322</b>	<b>100</b>	<b>6386</b>	<b>100</b>	<b>9981</b>	<b>100</b>	<b>12319</b>	<b>100</b>	<b>14006</b>	<b>100</b>	<b>14975</b>	<b>100</b>

**Table 11.2.6(a): Distribution of prescribed Kt/V, HD patients 2001-2010**

<b>Year</b>	<b>Number of patients</b>	<b>Mean</b>	<b>SD</b>	<b>Median</b>	<b>LQ</b>	<b>UQ</b>	<b>% patients <math>\geq 1.3</math></b>
<b>2001</b>	<b>4908</b>	<b>1.5</b>	<b>0.4</b>	<b>1.5</b>	<b>1.3</b>	<b>1.7</b>	<b>73</b>
<b>2002</b>	<b>5496</b>	<b>1.5</b>	<b>0.4</b>	<b>1.5</b>	<b>1.3</b>	<b>1.7</b>	<b>73</b>
<b>2003</b>	<b>6525</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.3</b>	<b>1.8</b>	<b>79</b>
<b>2004</b>	<b>7457</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.4</b>	<b>1.8</b>	<b>81</b>
<b>2005</b>	<b>8749</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.4</b>	<b>1.9</b>	<b>81</b>
<b>2006</b>	<b>11092</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.3</b>	<b>1.8</b>	<b>77</b>
<b>2007</b>	<b>12354</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.3</b>	<b>1.8</b>	<b>78</b>
<b>2008</b>	<b>14752</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.3</b>	<b>1.8</b>	<b>79</b>
<b>2009</b>	<b>17253</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.4</b>	<b>1.9</b>	<b>82</b>
<b>2010</b>	<b>18478</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.4</b>	<b>1.9</b>	<b>80</b>

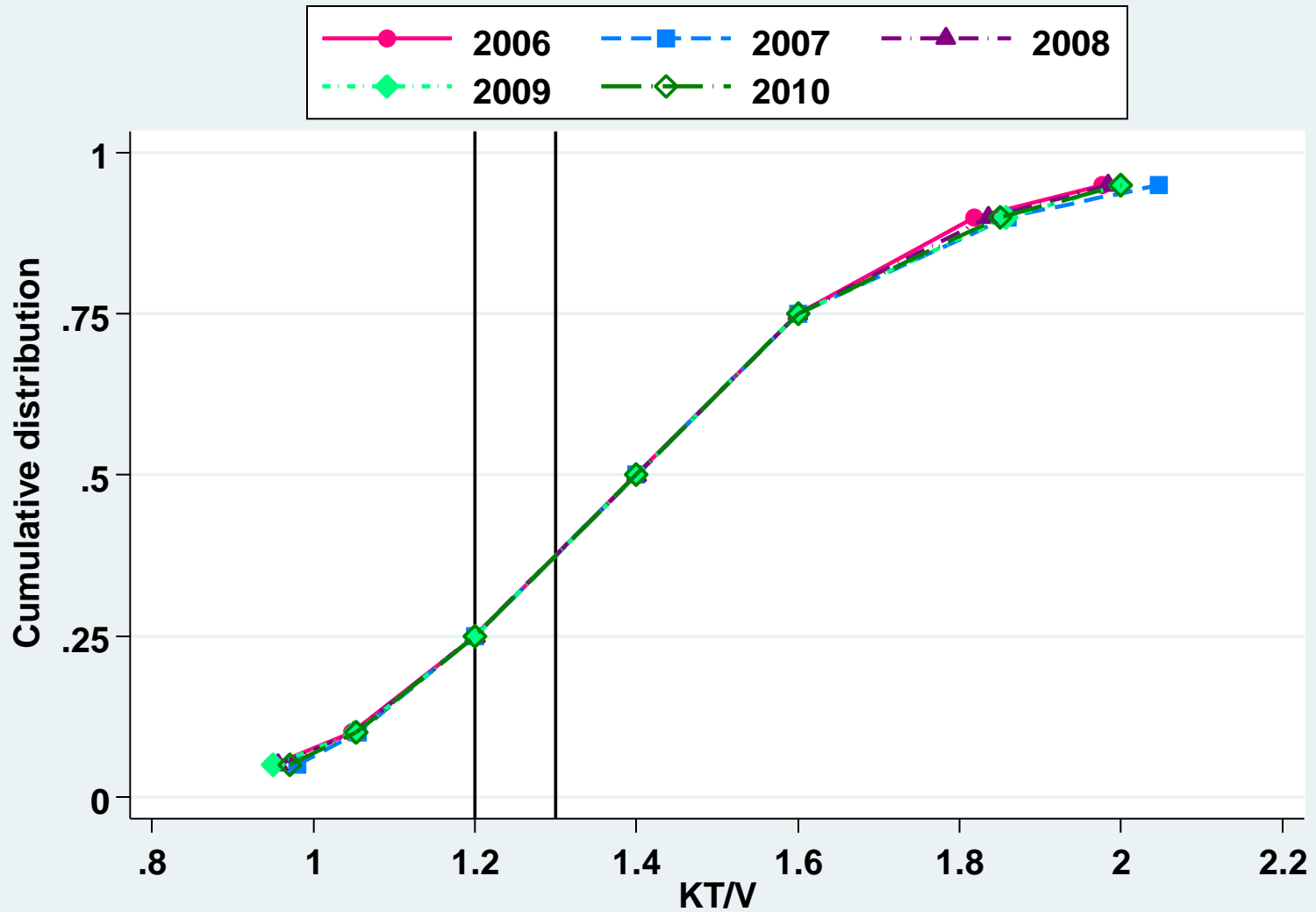
**Figure 11.2.6(a): Cumulative distribution of prescribed Kt/V, HD patients 2001-2010**



**Table 11.2.6(b): Distribution of delivered Kt/V, HD patients 2006-2010**

<b>Year</b>	<b>Number of patients</b>	<b>Mean</b>	<b>SD</b>	<b>Median</b>	<b>LQ</b>	<b>UQ</b>	<b>% patients ≥1.2</b>	<b>% patients ≥1.3</b>	<b>Variance*</b>
<b>2006</b>	<b>5555</b>	<b>1.4</b>	<b>1.3</b>	<b>1.4</b>	<b>1.2</b>	<b>1.6</b>	<b>76</b>	<b>59</b>	<b>0.2</b>
<b>2007</b>	<b>6360</b>	<b>1.5</b>	<b>0.6</b>	<b>1.4</b>	<b>1.2</b>	<b>1.6</b>	<b>78</b>	<b>62</b>	<b>0.2</b>
<b>2008</b>	<b>8529</b>	<b>1.4</b>	<b>0.3</b>	<b>1.4</b>	<b>1.2</b>	<b>1.6</b>	<b>78</b>	<b>61</b>	<b>0.2</b>
<b>2009</b>	<b>10468</b>	<b>1.5</b>	<b>0.7</b>	<b>1.4</b>	<b>1.2</b>	<b>1.6</b>	<b>81</b>	<b>64</b>	<b>0.2</b>
<b>2010</b>	<b>11609</b>	<b>1.4</b>	<b>0.4</b>	<b>1.4</b>	<b>1.2</b>	<b>1.6</b>	<b>79</b>	<b>62</b>	<b>0.2</b>

**Figure 11.2.6 (b): Cumulative distribution of delivered Kt/V, HD patients 2006-2010**

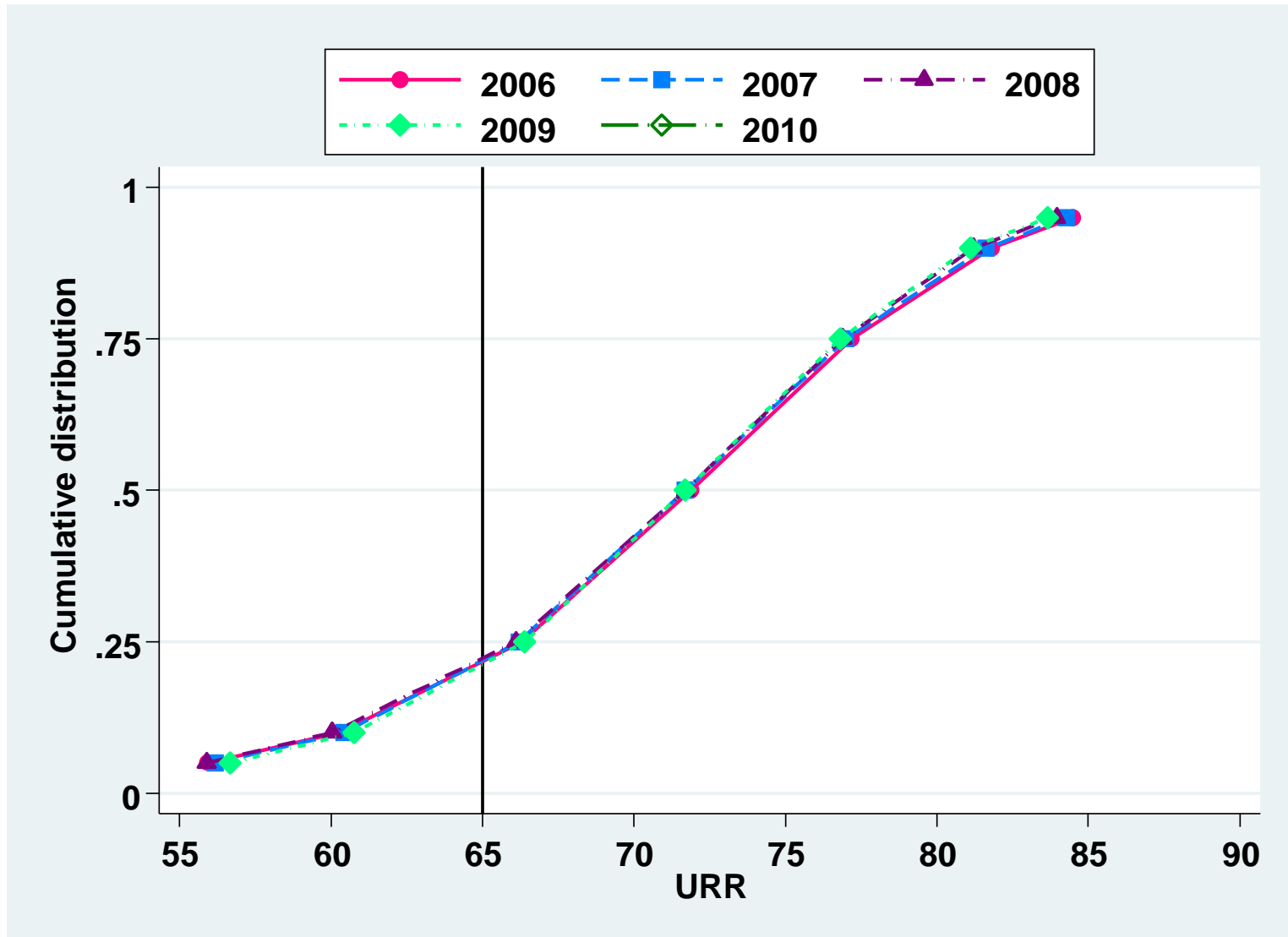


**Table 11.2.6(c): Distribution of URR, HD patients 2006-2010**

<b>Year</b>	<b>Number of patients</b>	<b>Mean</b>	<b>SD</b>	<b>Median</b>	<b>LQ</b>	<b>UQ</b>	<b>% patients <math>\geq</math> 65%</b>
<b>2006</b>	<b>8267</b>	<b>71.4</b>	<b>9.2</b>	<b>71.8</b>	<b>66.3</b>	<b>77.1</b>	<b>79</b>
<b>2007</b>	<b>9945</b>	<b>71.3</b>	<b>9.2</b>	<b>71.9</b>	<b>66.3</b>	<b>77.2</b>	<b>79</b>
<b>2008</b>	<b>12601</b>	<b>71.2</b>	<b>9</b>	<b>71.7</b>	<b>66.2</b>	<b>77</b>	<b>79</b>
<b>2009</b>	<b>14948</b>	<b>71</b>	<b>9</b>	<b>71.7</b>	<b>66.1</b>	<b>76.9</b>	<b>79</b>
<b>2010</b>	<b>16543</b>	<b>71.2</b>	<b>8.6</b>	<b>71.7</b>	<b>66.4</b>	<b>76.8</b>	<b>80</b>



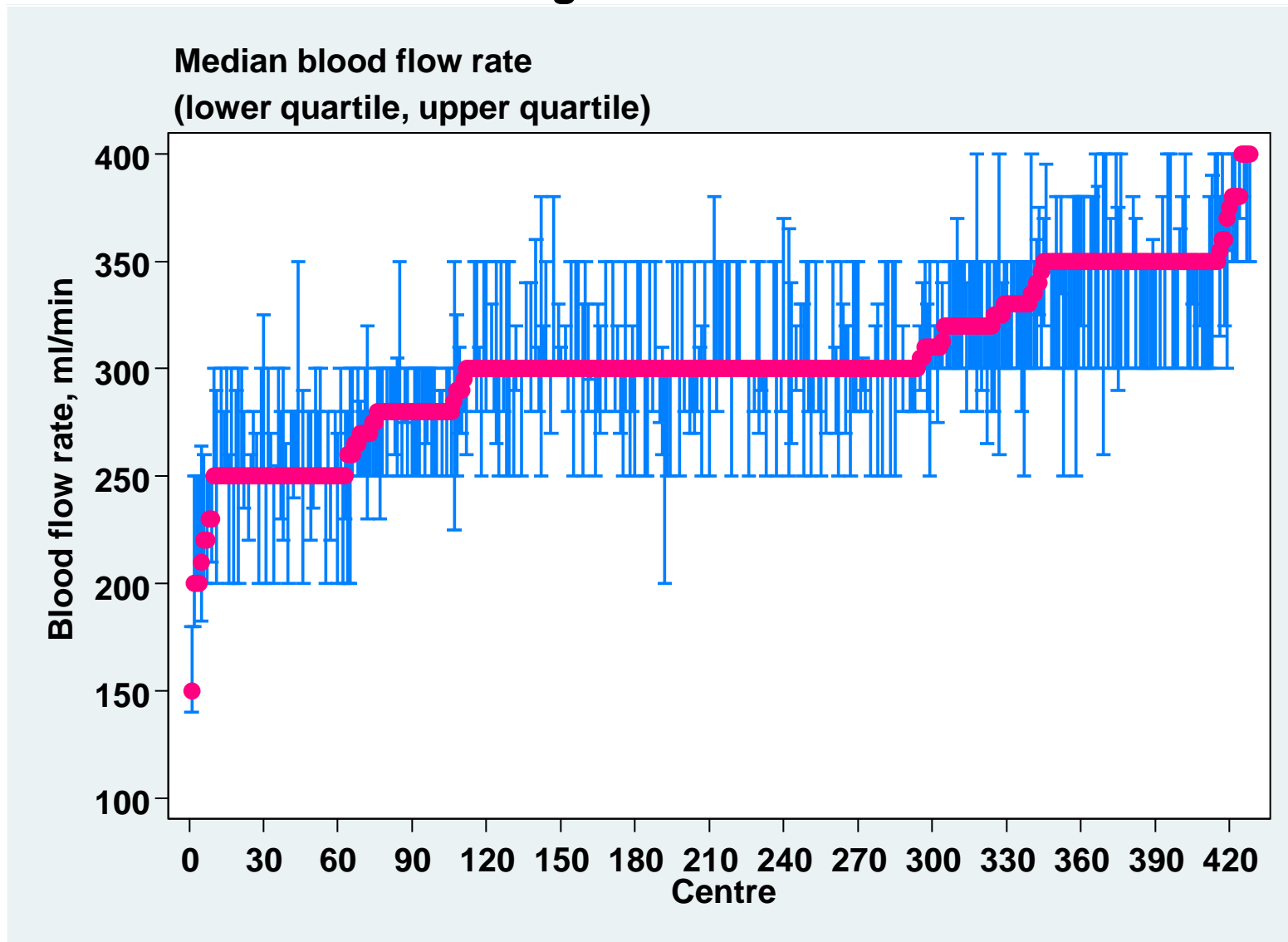
**Figure 11.2.6 (c): Cumulative distribution of URR, HD patients 2006-2010**



**Table 11.2.7: Variation HD prescription among HD centres, 2001-2010**  
**(a) Median blood flow rates in HD patients, HD centres**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2001</b>	<b>116</b>	<b>200</b>	<b>220</b>	<b>250</b>	<b>252.5</b>	<b>300</b>	<b>300</b>	<b>350</b>
<b>2002</b>	<b>137</b>	<b>200</b>	<b>230</b>	<b>250</b>	<b>280</b>	<b>300</b>	<b>300</b>	<b>350</b>
<b>2003</b>	<b>155</b>	<b>200</b>	<b>240</b>	<b>250</b>	<b>280</b>	<b>300</b>	<b>325</b>	<b>350</b>
<b>2004</b>	<b>184</b>	<b>220</b>	<b>250</b>	<b>257.5</b>	<b>287.5</b>	<b>300</b>	<b>350</b>	<b>400</b>
<b>2005</b>	<b>228</b>	<b>200</b>	<b>250</b>	<b>260</b>	<b>300</b>	<b>300</b>	<b>350</b>	<b>400</b>
<b>2006</b>	<b>283</b>	<b>200</b>	<b>250</b>	<b>270</b>	<b>300</b>	<b>300</b>	<b>350</b>	<b>400</b>
<b>2007</b>	<b>302</b>	<b>200</b>	<b>250</b>	<b>280</b>	<b>300</b>	<b>300</b>	<b>350</b>	<b>400</b>
<b>2008</b>	<b>355</b>	<b>200</b>	<b>250</b>	<b>280</b>	<b>300</b>	<b>300</b>	<b>350</b>	<b>400</b>
<b>2009</b>	<b>404</b>	<b>180</b>	<b>250</b>	<b>280</b>	<b>300</b>	<b>320</b>	<b>350</b>	<b>400</b>
<b>2010</b>	<b>428</b>	<b>150</b>	<b>250</b>	<b>287.5</b>	<b>300</b>	<b>320</b>	<b>350</b>	<b>400</b>

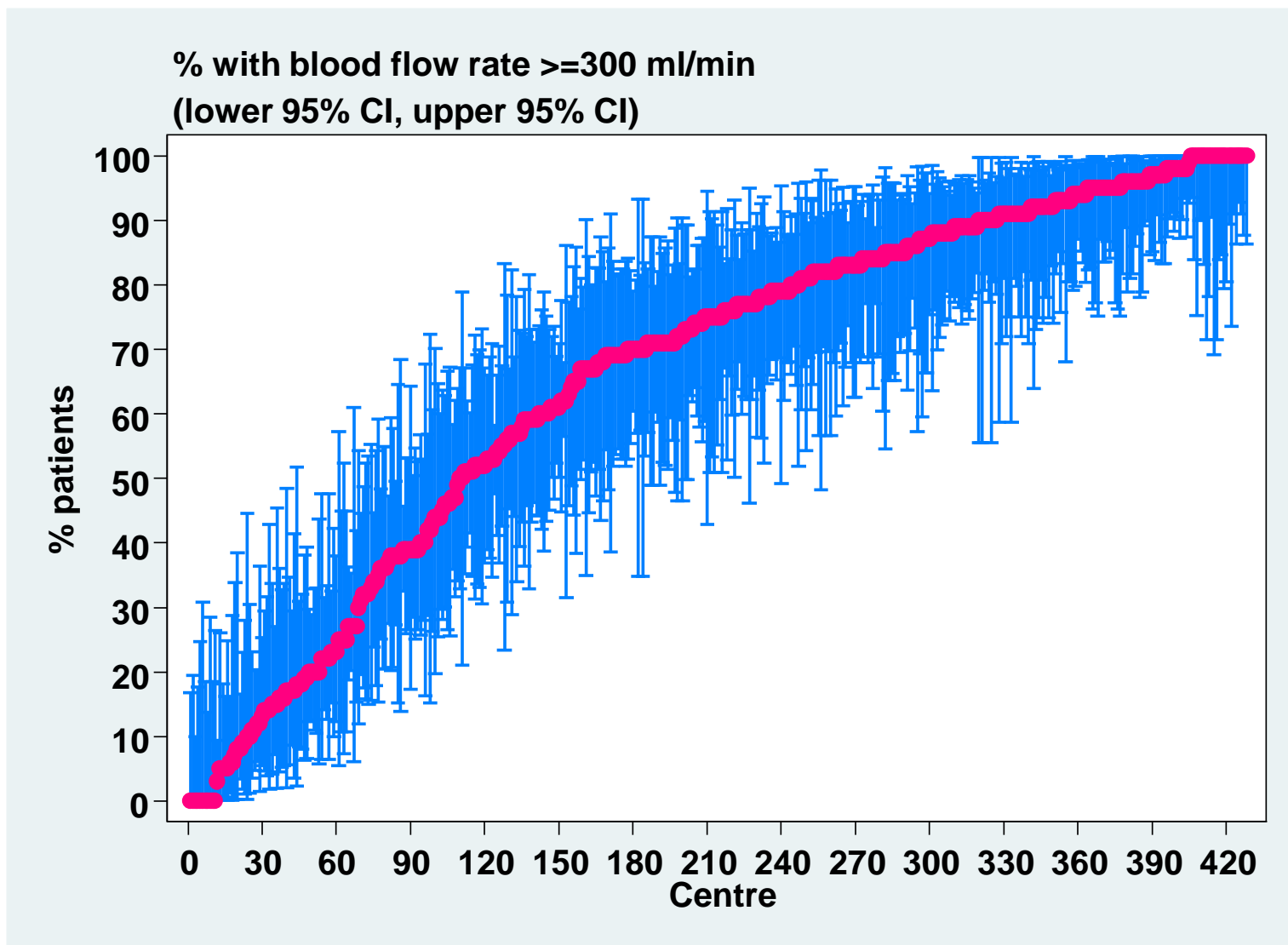
**Figure 11.2.7 (a): Variation in median blood flow rates in HD patients among centres 2010**



**Table 11.2.7 (b) Proportion of patients with blood flow rates > 300 ml/min, HD centres 2001-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2001</b>	<b>116</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>25.5</b>	<b>51.5</b>	<b>81</b>	<b>100</b>
<b>2002</b>	<b>137</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>33</b>	<b>61</b>	<b>90</b>	<b>100</b>
<b>2003</b>	<b>155</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>45</b>	<b>69</b>	<b>91</b>	<b>100</b>
<b>2004</b>	<b>184</b>	<b>0</b>	<b>4</b>	<b>23.5</b>	<b>48.5</b>	<b>73</b>	<b>93</b>	<b>100</b>
<b>2005</b>	<b>228</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>53</b>	<b>77</b>	<b>94</b>	<b>100</b>
<b>2006</b>	<b>283</b>	<b>0</b>	<b>5</b>	<b>30</b>	<b>63</b>	<b>83</b>	<b>94</b>	<b>100</b>
<b>2007</b>	<b>302</b>	<b>0</b>	<b>7</b>	<b>37</b>	<b>68</b>	<b>84</b>	<b>96</b>	<b>100</b>
<b>2008</b>	<b>355</b>	<b>0</b>	<b>9</b>	<b>40</b>	<b>70</b>	<b>86</b>	<b>99</b>	<b>100</b>
<b>2009</b>	<b>404</b>	<b>0</b>	<b>11</b>	<b>42.5</b>	<b>72</b>	<b>88</b>	<b>99</b>	<b>100</b>
<b>2010</b>	<b>428</b>	<b>0</b>	<b>9</b>	<b>47</b>	<b>75</b>	<b>90</b>	<b>100</b>	<b>100</b>

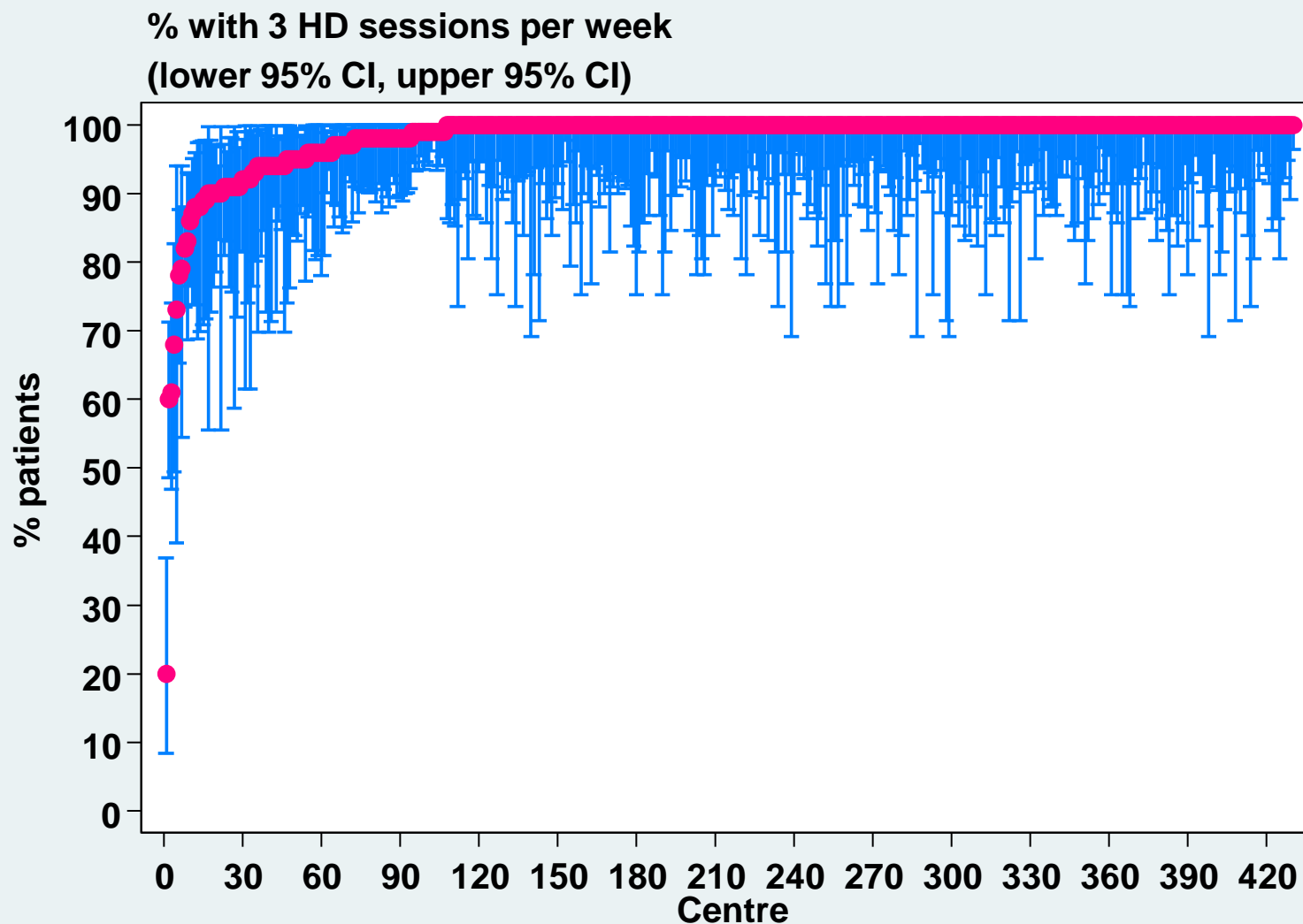
**Figure 11.2.7 (b): Variation in Proportion of patients with blood flow rates  $\geq 300$  ml/min among HD centres 2010**



**Table 11.2.7 (c): Proportion of patients with 3 HD sessions per week, HD centres 2001-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2001</b>	<b>118</b>	<b>23</b>	<b>50</b>	<b>92</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2002</b>	<b>137</b>	<b>28</b>	<b>48</b>	<b>94</b>	<b>99</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2003</b>	<b>160</b>	<b>36</b>	<b>55</b>	<b>97</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2004</b>	<b>188</b>	<b>37</b>	<b>70</b>	<b>98</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2005</b>	<b>231</b>	<b>40</b>	<b>75</b>	<b>99</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2006</b>	<b>287</b>	<b>52</b>	<b>83</b>	<b>98</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2007</b>	<b>309</b>	<b>51</b>	<b>87</b>	<b>98</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2008</b>	<b>359</b>	<b>51</b>	<b>89</b>	<b>98</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2009</b>	<b>404</b>	<b>18</b>	<b>88</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>2010</b>	<b>430</b>	<b>20</b>	<b>90</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Figure 11.2.7 (c): Variation in proportion of patients with 3 HD sessions per week among HD centres 2010**

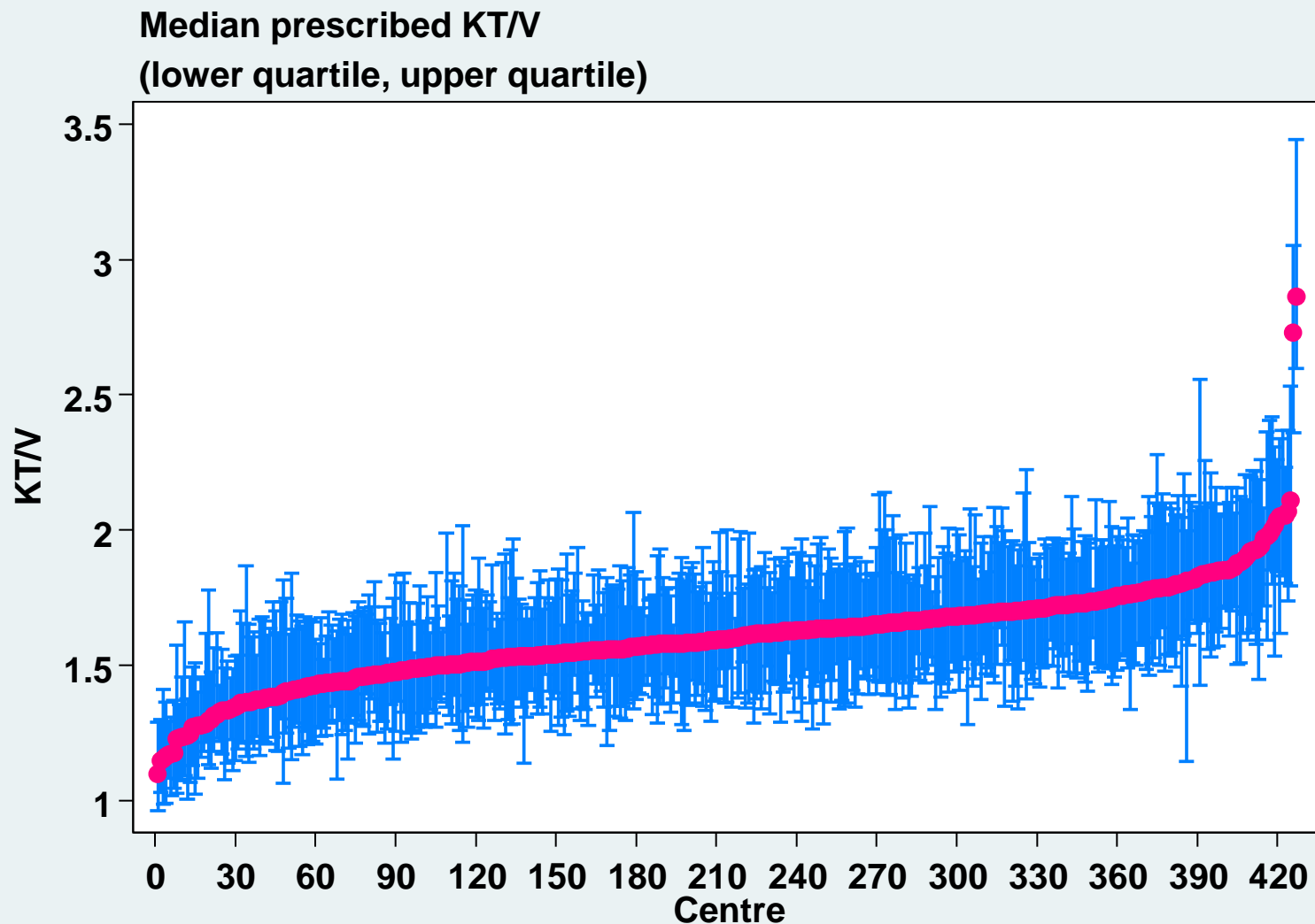


**Table 11.2.7 (d): Median prescribed Kt/V in HD patients, HD centres  
2001-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2001</b>	<b>114</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.9</b>
<b>2002</b>	<b>132</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>
<b>2003</b>	<b>150</b>	<b>1.1</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>1.7</b>	<b>1.9</b>	<b>2</b>
<b>2004</b>	<b>181</b>	<b>1.2</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>	<b>2.2</b>
<b>2005</b>	<b>224</b>	<b>1.2</b>	<b>1.3</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>	<b>2</b>
<b>2006</b>	<b>281</b>	<b>1</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>	<b>2.1</b>
<b>2007</b>	<b>302</b>	<b>1.1</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>	<b>2.1</b>
<b>2008</b>	<b>353</b>	<b>1.1</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>1.7</b>	<b>1.9</b>	<b>2.1</b>
<b>2009</b>	<b>400</b>	<b>1.1</b>	<b>1.3</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.9</b>	<b>2.2</b>
<b>2010</b>	<b>427</b>	<b>1.1</b>	<b>1.3</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>	<b>1.9</b>	<b>2.9</b>



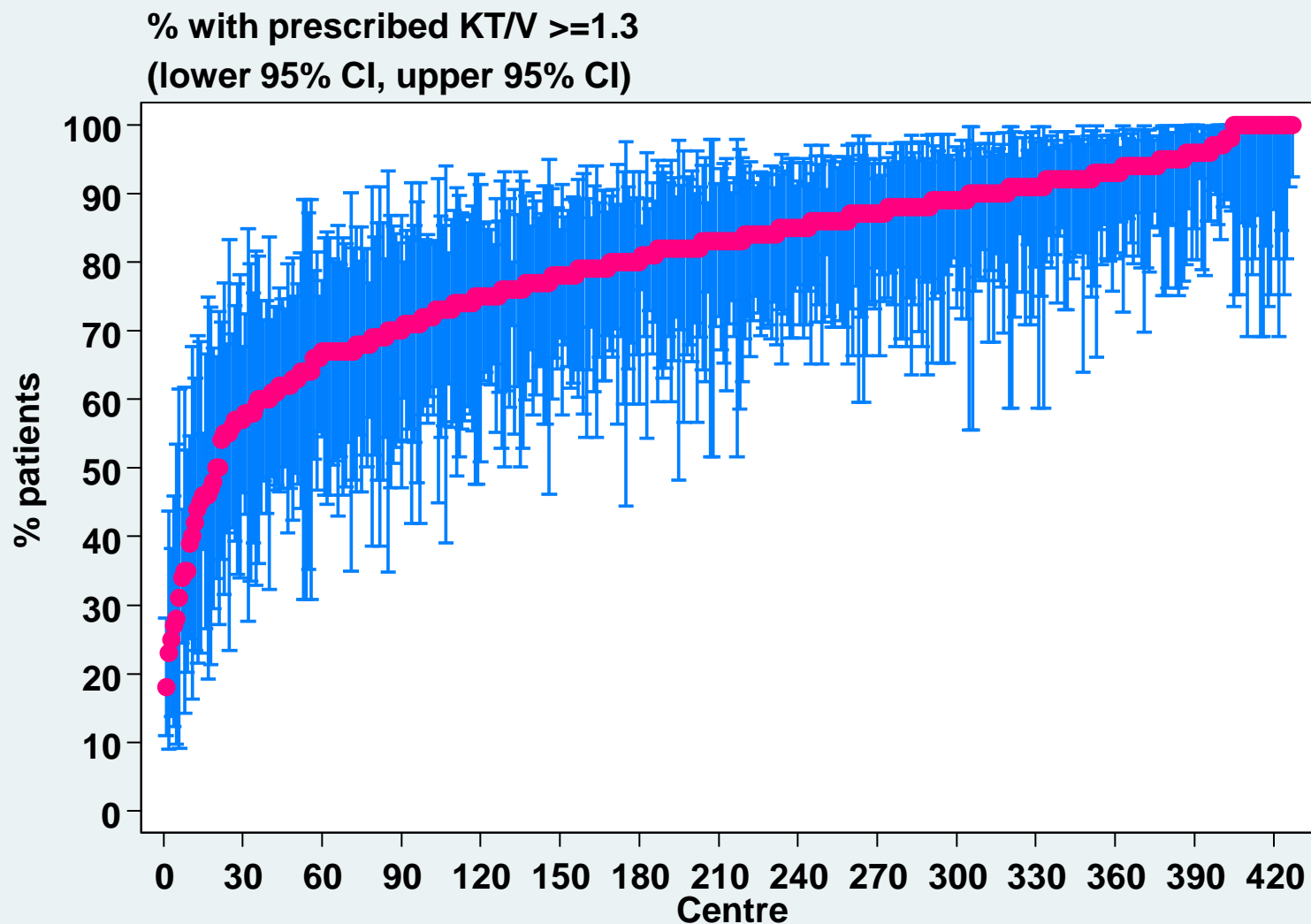
**Figure 11.2.7 (d): Variation in median prescribed Kt/V in HD patients among HD centres 2010**



**Table 11.2.7 (e): Proportion of patients with prescribed Kt/V  $\geq$  1.3, 2001-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2001</b>	<b>114</b>	<b>33</b>	<b>42</b>	<b>67</b>	<b>75</b>	<b>83</b>	<b>93</b>	<b>100</b>
<b>2002</b>	<b>132</b>	<b>26</b>	<b>43</b>	<b>65</b>	<b>74.5</b>	<b>83</b>	<b>92</b>	<b>98</b>
<b>2003</b>	<b>150</b>	<b>30</b>	<b>48</b>	<b>71</b>	<b>81</b>	<b>89</b>	<b>96</b>	<b>100</b>
<b>2004</b>	<b>181</b>	<b>28</b>	<b>58</b>	<b>74</b>	<b>83</b>	<b>91</b>	<b>98</b>	<b>100</b>
<b>2005</b>	<b>224</b>	<b>32</b>	<b>56</b>	<b>73</b>	<b>82</b>	<b>90</b>	<b>98</b>	<b>100</b>
<b>2006</b>	<b>281</b>	<b>0</b>	<b>46</b>	<b>67</b>	<b>79</b>	<b>87</b>	<b>96</b>	<b>100</b>
<b>2007</b>	<b>302</b>	<b>21</b>	<b>50</b>	<b>67</b>	<b>80</b>	<b>89</b>	<b>96</b>	<b>100</b>
<b>2008</b>	<b>353</b>	<b>14</b>	<b>47</b>	<b>69</b>	<b>83</b>	<b>89</b>	<b>98</b>	<b>100</b>
<b>2009</b>	<b>400</b>	<b>26</b>	<b>53</b>	<b>74</b>	<b>83</b>	<b>91</b>	<b>97</b>	<b>100</b>
<b>2010</b>	<b>427</b>	<b>18</b>	<b>54</b>	<b>73</b>	<b>83</b>	<b>91</b>	<b>100</b>	<b>100</b>

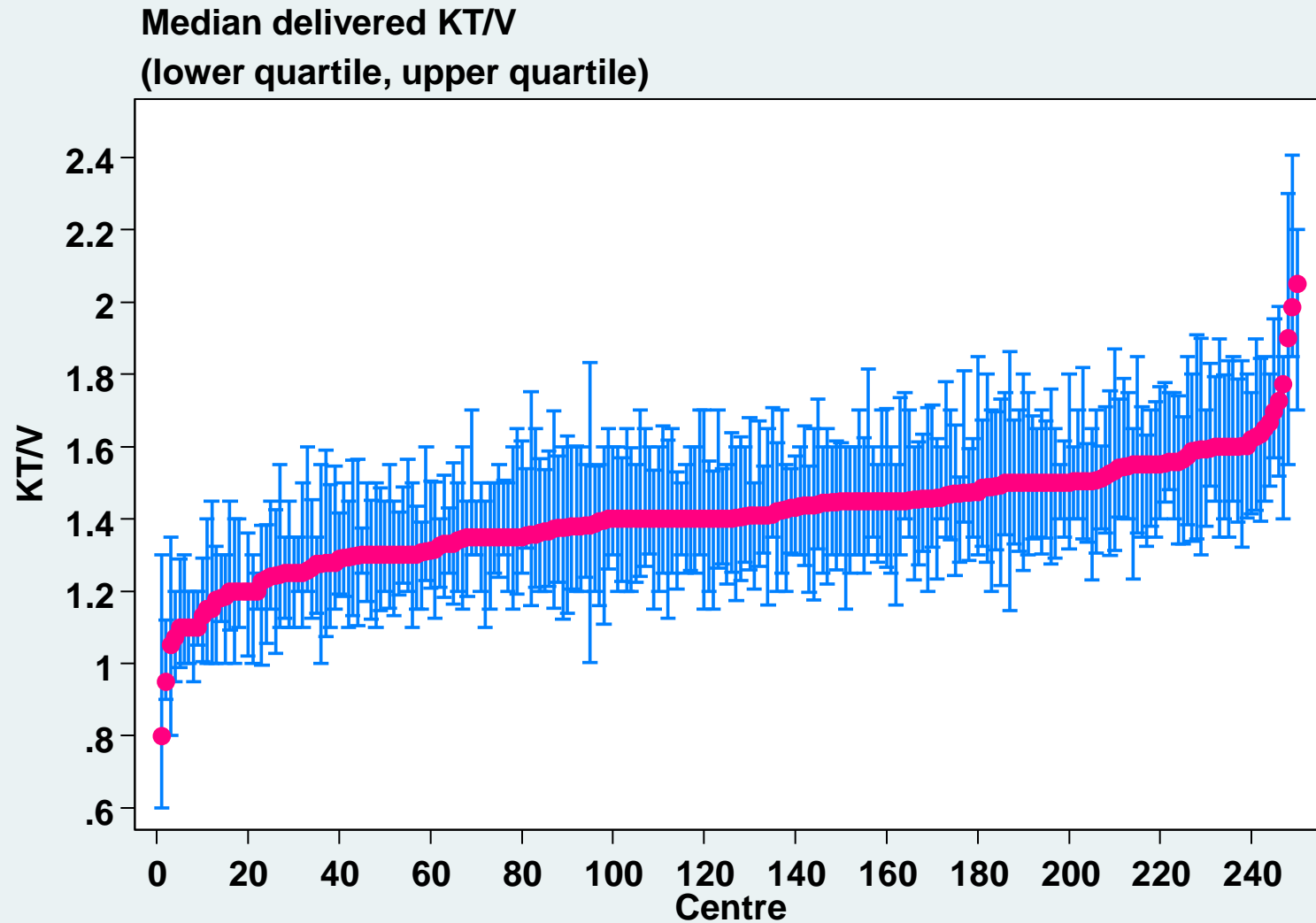
**Figure 11.2.7 (e): Variation in proportion of patients with prescribed  $Kt/V \geq 1.3$  among HD centres 2010**



**Table 11.2.7 (f): Median delivered Kt/V in HD patients, HD centres 2006-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2006</b>	<b>142</b>	<b>1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>
<b>2007</b>	<b>157</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.7</b>	<b>1.8</b>
<b>2008</b>	<b>199</b>	<b>1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.7</b>	<b>1.8</b>
<b>2009</b>	<b>239</b>	<b>1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>2</b>
<b>2010</b>	<b>250</b>	<b>0.8</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>2</b>

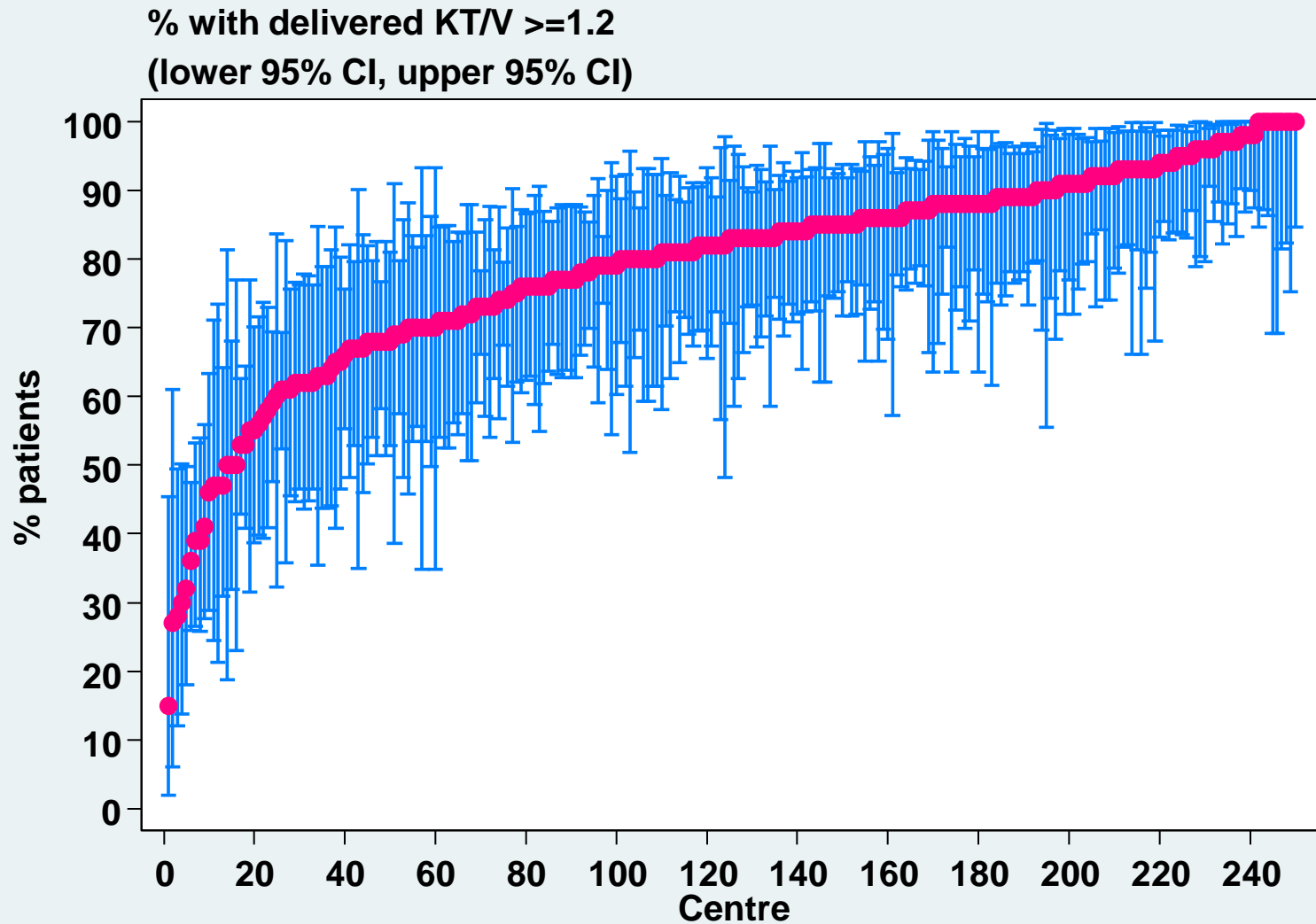
**Figure 11.2.7 (f): Variation in median delivered Kt/V in HD patients among HD centres 2010**



**Table 11.2.7 (g): Proportion of patients with delivered Kt/V  $\geq$  1.2, HD centres 2006-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2006</b>	<b>142</b>	<b>0</b>	<b>43</b>	<b>65</b>	<b>76</b>	<b>86</b>	<b>94</b>	<b>100</b>
<b>2007</b>	<b>157</b>	<b>34</b>	<b>46</b>	<b>70</b>	<b>79</b>	<b>89</b>	<b>97</b>	<b>100</b>
<b>2008</b>	<b>199</b>	<b>21</b>	<b>49</b>	<b>68</b>	<b>81</b>	<b>89</b>	<b>100</b>	<b>100</b>
<b>2009</b>	<b>239</b>	<b>16</b>	<b>51</b>	<b>74</b>	<b>83</b>	<b>89</b>	<b>97</b>	<b>100</b>
<b>2010</b>	<b>250</b>	<b>15</b>	<b>47</b>	<b>71</b>	<b>83</b>	<b>89</b>	<b>98</b>	<b>100</b>

**Figure 11.2.7 (g): Variation in proportion of patients with delivered Kt/V  $\geq 1.2$ , HD centres 2010**

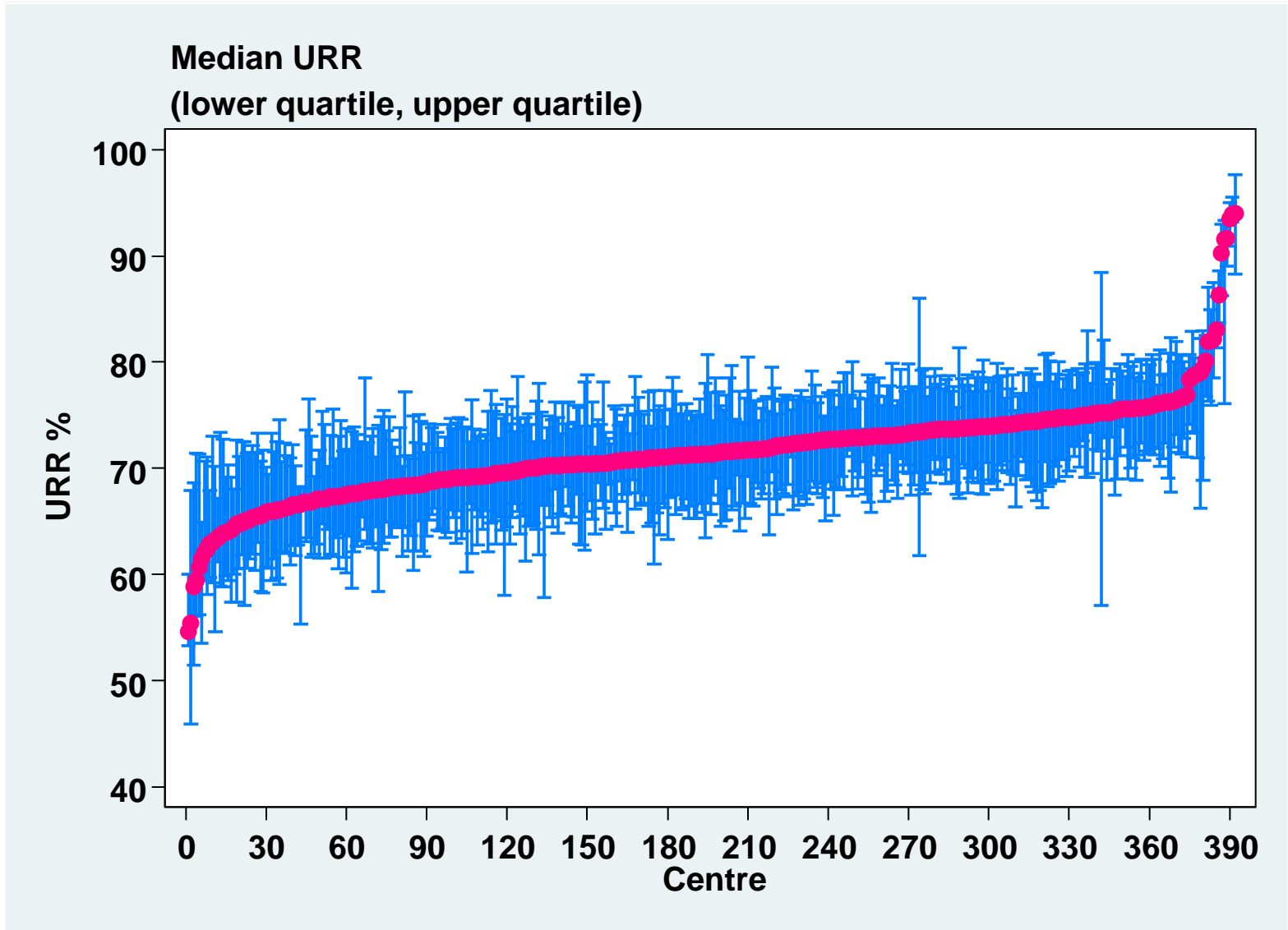


**Table 11.2.7 (h): Median URR among HD patients, HD centres 2006-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2006</b>	<b>214</b>	<b>55.4</b>	<b>64.2</b>	<b>68.9</b>	<b>71.5</b>	<b>74.3</b>	<b>78.2</b>	<b>94.4</b>
<b>2007</b>	<b>245</b>	<b>56.1</b>	<b>65.3</b>	<b>69.6</b>	<b>71.8</b>	<b>74.8</b>	<b>78</b>	<b>95.5</b>
<b>2008</b>	<b>310</b>	<b>40.4</b>	<b>63.5</b>	<b>68.5</b>	<b>71.7</b>	<b>74.4</b>	<b>77.9</b>	<b>93.6</b>
<b>2009</b>	<b>350</b>	<b>60</b>	<b>64.4</b>	<b>68.7</b>	<b>71.8</b>	<b>74.1</b>	<b>77</b>	<b>93.3</b>
<b>2010</b>	<b>392</b>	<b>54.6</b>	<b>64.8</b>	<b>69</b>	<b>71.4</b>	<b>73.8</b>	<b>76.7</b>	<b>94</b>



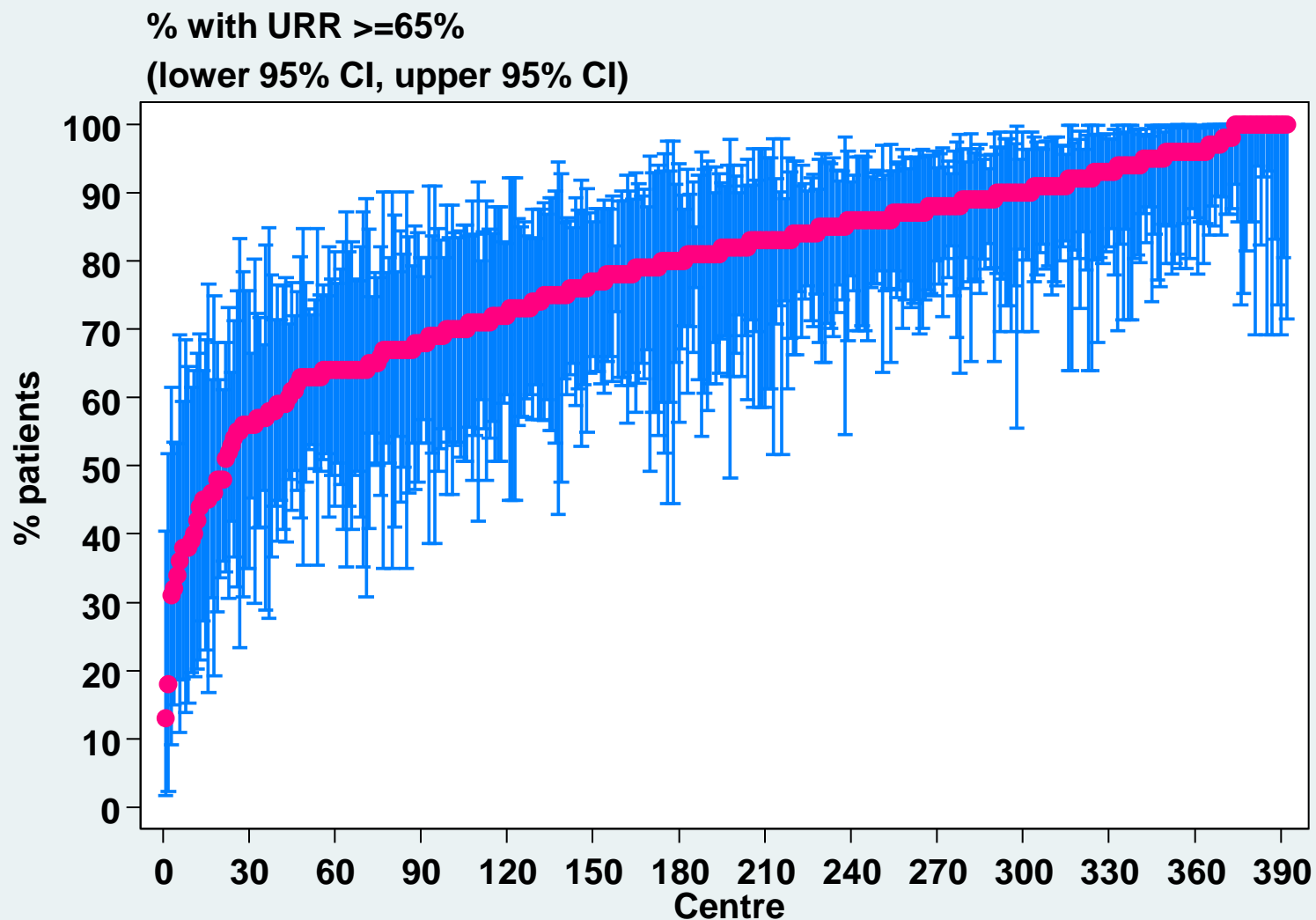
**Figure 11.2.7 (h): Variation in median URR among HD patients, HD centres 2010**



**Table 11.2.7 (i): Proportion of HD patients with URR  $\geq$  65%, HD centres 2006-2010**

<b>Year</b>	<b>Number of centers</b>	<b>Min</b>	<b>5<sup>th</sup> Centile</b>	<b>LQ</b>	<b>Median</b>	<b>UQ</b>	<b>95<sup>th</sup> Centile</b>	<b>Max</b>
<b>2006</b>	<b>214</b>	<b>0</b>	<b>50</b>	<b>69</b>	<b>79.5</b>	<b>88</b>	<b>97</b>	<b>100</b>
<b>2007</b>	<b>245</b>	<b>15</b>	<b>51</b>	<b>71</b>	<b>82</b>	<b>89</b>	<b>97</b>	<b>100</b>
<b>2008</b>	<b>310</b>	<b>0</b>	<b>43</b>	<b>69</b>	<b>82.5</b>	<b>90</b>	<b>98</b>	<b>100</b>
<b>2009</b>	<b>350</b>	<b>22</b>	<b>45</b>	<b>69</b>	<b>81</b>	<b>89</b>	<b>97</b>	<b>100</b>
<b>2010</b>	<b>392</b>	<b>13</b>	<b>48</b>	<b>69.5</b>	<b>82</b>	<b>90</b>	<b>98</b>	<b>100</b>

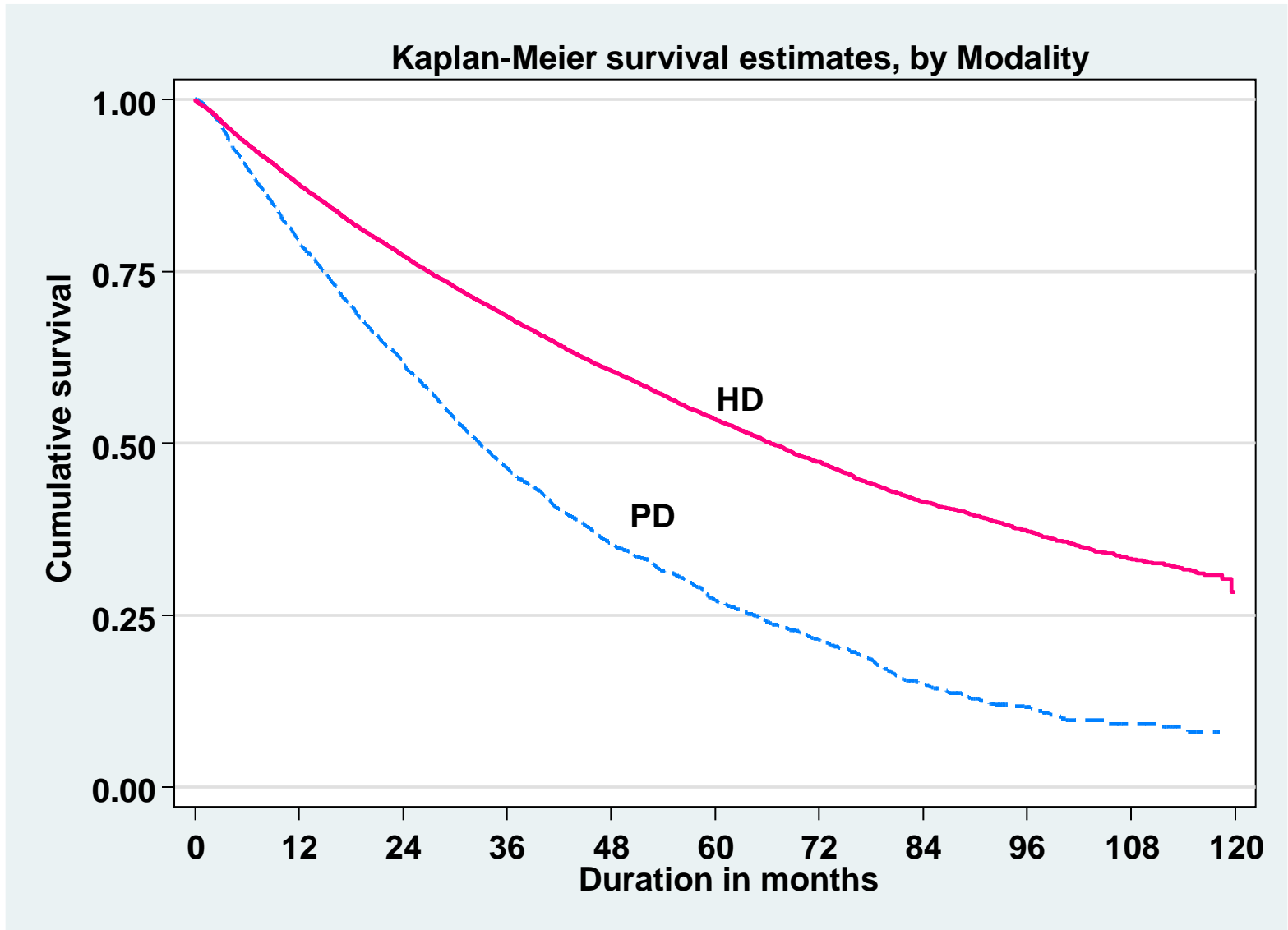
**Figure 11.2.7 (i): Variation in proportion of patients with URR  $\geq$  65% among HD centres 2010**



**Table 11.3.1: Unadjusted technique survival by Dialysis modality, 2001-2010**

Dialysis modality Interval (month)	PD			HD			All Dialysis		
	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE
0	4800	100	-	31940	100	-	36740	100	-
6	4041	90	0	28012	94	0	32053	93	0
12	3270	79	1	23915	88	0	27185	87	0
24	2107	62	1	17500	77	0	19607	75	0
36	1307	46	1	12701	68	0	14008	66	0
48	786	35	1	8913	61	0	9699	57	0
60	474	27	1	6048	53	0	6522	50	0
72	301	21	1	4022	47	0	4322	44	0
84	153	15	1	2456	41	0	2608	38	0
96	69	12	1	1394	37	0	1462	34	0
108	28	9	1	568	33	1	595	30	1
120	-	-	-	-	-	-	-	-	-

**Figure 11.3.1: Unadjusted technique survival by Dialysis modality, 2001-2010**

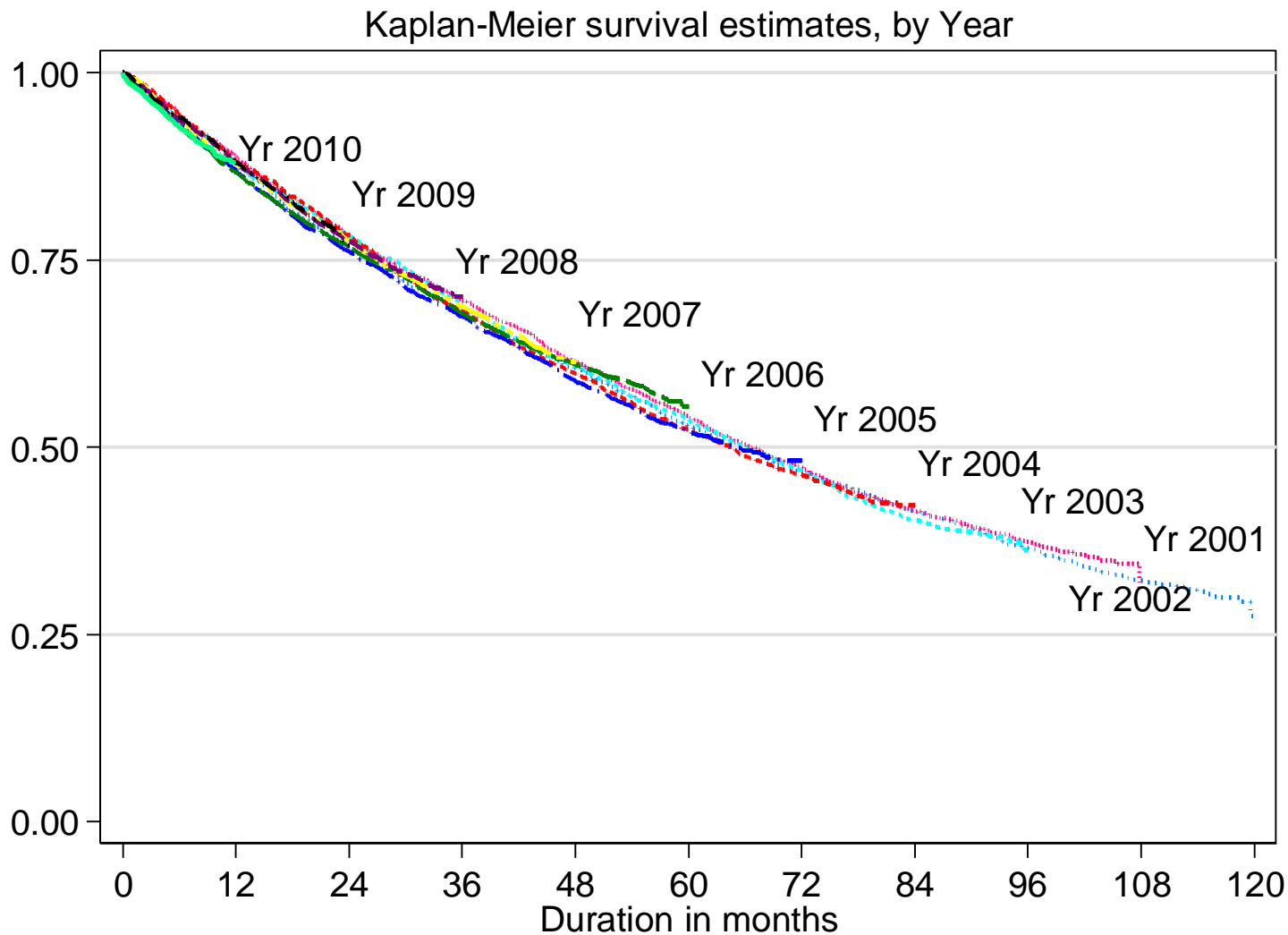


# Table 11.3.2: Unadjusted technique survival by year of entry, 2001-2010

Year Interval (month)	2001			2002			2003			2004			2005		
	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n.	% Survival	SE
0	1901	100	-	2149	100	-	2339	100	-	2746	100	-	2954	100	-
6	1771	93	1	2015	94	1	2170	94	0	2570	94	0	2725	93	0
12	1625	87	1	1883	89	1	2004	88	1	2373	88	1	2516	87	1
24	1404	77	1	1613	78	1	1755	78	1	2071	78	1	2176	76	1
36	1232	68	1	1427	70	1	1534	69	1	1791	68	1	1917	67	1
48	1086	61	1	1256	61	1	1346	61	1	1567	60	1	1661	59	1
60	945	53	1	1099	54	1	1183	54	1	1366	52	1	1457	52	1
72	832	47	1	959	47	1	1031	47	1	1202	46	1	-	-	-
84	736	41	1	838	41	1	882	40	1	-	-	-	-	-	-
96	646	37	1	748	37	1	-	-	-	-	-	-	-	-	-
108	568	32	1	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Year Interval (month)	2006			2007			2008			2009			2010		
	n.	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE
0	3412	100	-	3669	100	-	4149	100	-	4391	100	-	4230	100	-
6	3131	93	0	3438	94	0	3869	94	0	4092	94	0	2243	93	0
12	2908	87	1	3192	88	1	3610	88	1	3806	88	0	-	-	-
24	2550	77	1	2796	78	1	3141	77	1	-	-	-	-	-	-
36	2240	68	1	2459	69	1	-	-	-	-	-	-	-	-	-
48	2001	61	1	-	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Figure 11.3.2: Unadjusted technique survival by year of entry, 2001-2010**

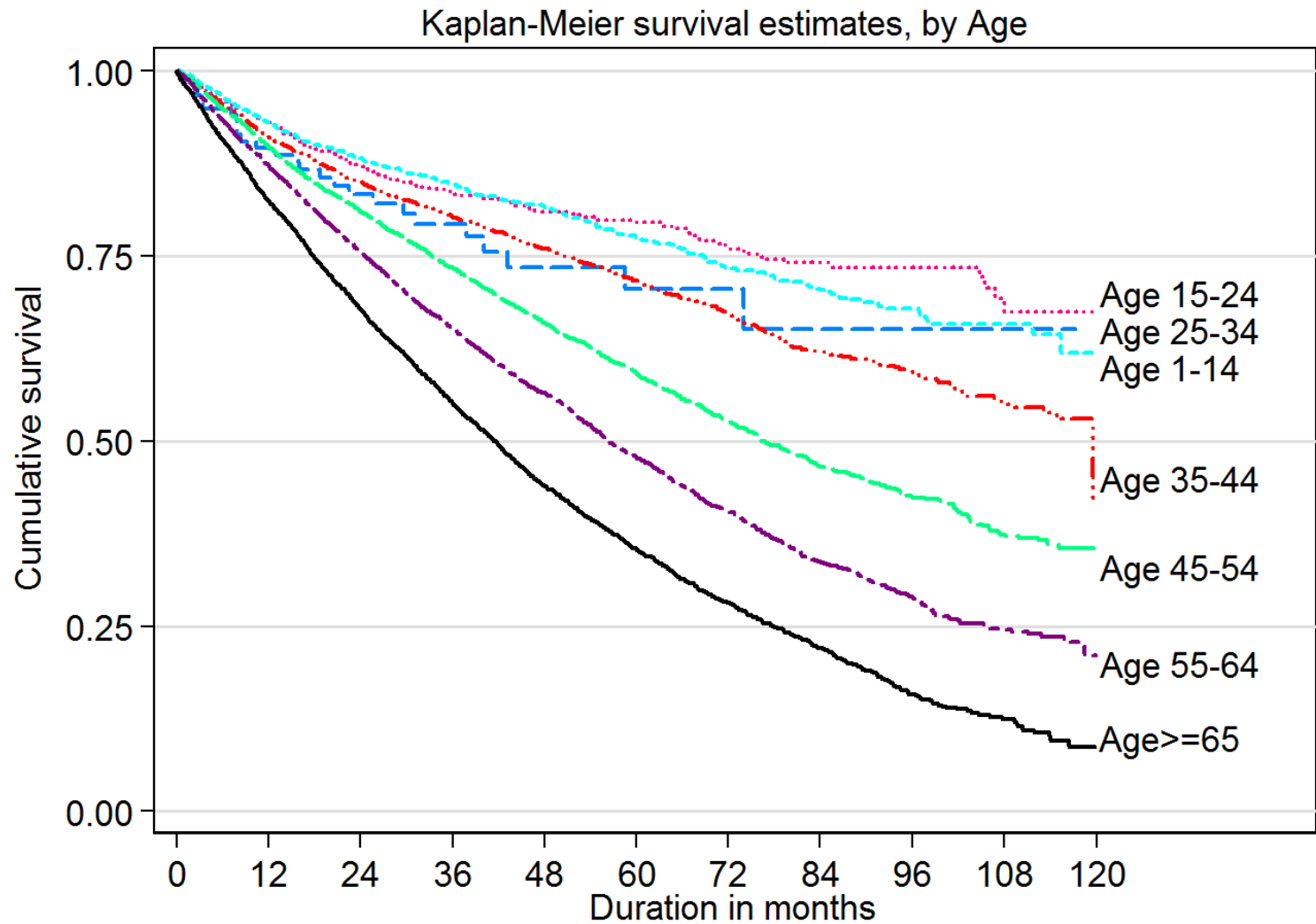


### Table 11.3.3: Unadjusted technique survival by age, 2001-2010

Age group (year) Interval (month)	≤ 14			15-24			25-34			35-44			45-54			55-64			≥ 65		
	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE	n	% Survival	SE
0	121	100	-	1013	100	-	2111	100	-	3754	100	-	7965	100	-	9270	100	-	7706	100	-
6	110	95	2	915	96	1	1888	96	0	3346	95	0	7108	95	0	8089	93	0	6559	91	0
12	96	90	3	812	93	1	1643	93	1	2912	91	0	6114	90	0	6884	87	0	5456	82	0
24	74	83	4	619	87	1	1283	88	1	2274	85	1	4614	81	0	4942	76	0	3695	68	1
36	50	79	4	500	83	1	1008	85	1	1749	80	1	3436	73	1	3510	65	1	2449	55	1
48	33	73	5	383	81	1	779	81	1	1367	76	1	2466	66	1	2393	56	1	1524	44	1
60	25	71	6	291	80	2	576	77	1	1006	72	1	1683	59	1	1553	48	1	916	35	1
72	19	71	6	216	76	2	430	73	1	742	67	1	1118	53	1	961	40	1	545	28	1
84	10	65	7	144	74	2	297	70	2	474	62	1	704	47	1	545	34	1	289	22	1
96	7	65	7	90	74	2	179	68	2	306	59	1	416	42	1	276	29	1	122	16	1
108	3	65	7	41	69	3	67	66	2	138	55	2	175	37	1	106	24	1	42	12	1
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Figure 11.3.3: Unadjusted technique survival by age, 2001-2010**



**Table 11.3.4: Unadjusted technique survival by Diabetes status, 2001-2010**

<b>Diabetes status Interval (month)</b>	<b>Non-Diabetic</b>			<b>Diabetic</b>		
	<b>n</b>	<b>% Survival</b>	<b>SE</b>	<b>n</b>	<b>% Survival</b>	<b>SE</b>
<b>0</b>	<b>13763</b>	<b>100</b>	<b>-</b>	<b>18177</b>	<b>100</b>	<b>-</b>
<b>6</b>	<b>12108</b>	<b>94</b>	<b>0</b>	<b>15904</b>	<b>93</b>	<b>0</b>
<b>12</b>	<b>10523</b>	<b>90</b>	<b>0</b>	<b>13392</b>	<b>86</b>	<b>0</b>
<b>24</b>	<b>8090</b>	<b>83</b>	<b>0</b>	<b>9410</b>	<b>73</b>	<b>0</b>
<b>36</b>	<b>6219</b>	<b>77</b>	<b>0</b>	<b>6482</b>	<b>62</b>	<b>0</b>
<b>48</b>	<b>4640</b>	<b>72</b>	<b>0</b>	<b>4273</b>	<b>52</b>	<b>0</b>
<b>60</b>	<b>3411</b>	<b>66</b>	<b>1</b>	<b>2637</b>	<b>43</b>	<b>1</b>
<b>72</b>	<b>2426</b>	<b>61</b>	<b>1</b>	<b>1596</b>	<b>36</b>	<b>1</b>
<b>84</b>	<b>1573</b>	<b>56</b>	<b>1</b>	<b>886</b>	<b>30</b>	<b>1</b>
<b>96</b>	<b>952</b>	<b>52</b>	<b>1</b>	<b>442</b>	<b>25</b>	<b>1</b>
<b>108</b>	<b>420</b>	<b>48</b>	<b>1</b>	<b>148</b>	<b>20</b>	<b>1</b>
<b>120</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Figure 11.3.4: Unadjusted technique survival by Diabetes status, 2001-2010**

