

Utilisation of inpatient services by HIV/AIDS patients in NSW hospitals

This paper updates the graphs and tables on pages 24 to 29 in Section 5.2 of the report on the *HIV/AIDS Care and Treatment Services and Needs Assessment*, June 2004. Two additional years are now included – 2002/03 and 2003/04. The tables and graphs here have been given the same numbers as they have in the 2004 report for ease of comparison. Additionally, for consistency, as the data included in the 2004 report preceded the 2005 amalgamation of Area Health Services (AHSs), the tables and graphs continue to be presented under the seventeen former AHSs.

The difference between FlowInfo and HOIST data is described on page 23 of the 2004 report. Apart from Table 5 all data in the following tables and graphs come from FlowInfo. Table 5 reveals that both FlowInfo and HOIST data show a rise in the number of HIV separations in 2002/03 but then that increase is reversed the following year. The decline between 2001/02 and 2003/04 is much less dramatic (when the 2002/03 blip is ignored) than it was between 1997/98 and 2000/01.

Although the number of patients or separations has declined between 2001/02 and 2003/04, the number of beddays has actually increased between 2001/02 to 2003/04 so that bedday levels in 2003/04 are almost the same as they were in 1999/00 (Figure 11). Because the number of separations has fallen, length of stay must have increased. Table 6 confirms this fact with the average length of stay (excluding day only) increasing from 11.5 days in 2001/02 to 13.7 days in 2003/04.

Figures 12 and 13 show the trend in the number of separations and beddays if HIV separations and beddays are broken down by patient type. The increase in separations in 2002/03 was mostly day only patients with non day only or overnight+ patients showing a very slight increase in 2002/03 and an overall decline between 2001/02 and 2003/04. As mentioned above beddays have been steadily increasing since 2001/02 as evident in the longer average length of stay in 2003/04.

Table 5. Separations and beddays for people with an HIV diagnosis by year and data source

Year	FlowInfo (DRGs only)				HOIST data*			
	Annual Separations	% change	Annual Bed days	% change	Annual Separations	% change	Annual Bed days	% change
1996/97	5,863		17,221					
1997/98	2,258	-61.5	10,490	-39.1				
1998/99	1,275	-43.5	7,122	-32.1	3,051		16,219	
1999/00	917	-28.1	6,033	-15.3	2,541	-16.7	14,312	-11.8
2000/01	796	-13.2	5,071	-15.9	2,331	-8.3	12,906	-9.8
2001/02	765	-3.9	5,133	+1.2		n/a	n/a	n/a
2002/03	941	+23.0	5,380	+4.8	2,447	+5.0	14,913	+15.6
2003/04	707	-24.9	5,883	+9.3	2,314	-5.4	14,702	-1.4

*All separations where any of either the principal diagnosis or the other listed diagnoses were categorized using ICD-10-AM codes B20, B21, B22, B23.0, B23.8, B24, Z21 or R75 or had HIV AR-DRGs (version 4.1): S60Z, S61Z, S62Z, S63A, S63B, S64A, S64B.

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Figure 11. Trends in numbers of separations and beddays for HIV patients in NSW hospitals, 1996/97 to 2003/04

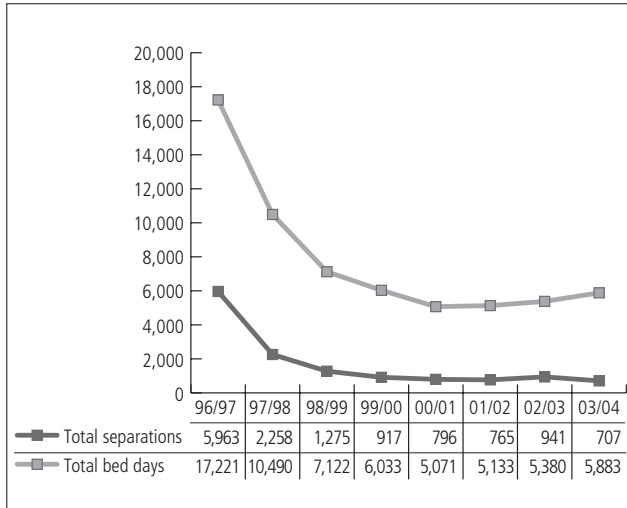


Figure 12. Trends in the number of HIV separations by type

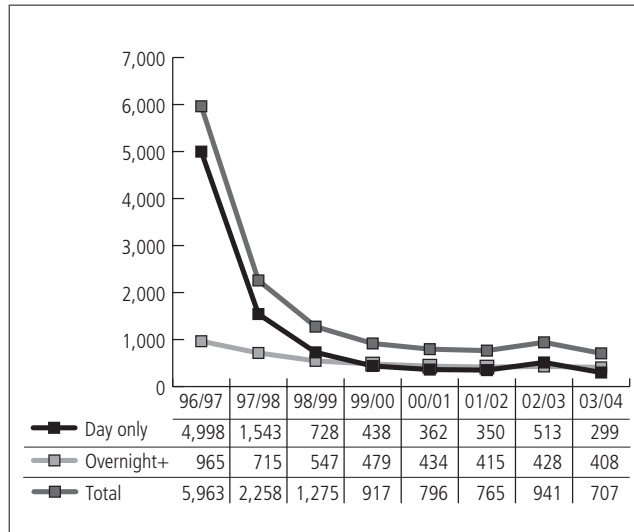


Table 6. Average length of stay for non day only (overnight+) HIV patients by year

	Non day only	Overnight+	Average Length of stay
	Separations	Bed days	
1996/97	965	12,223	12.7
1997/98	715	8,947	12.5
1998/99	547	6,394	11.7
1999/00	479	5,595	11.7
2000/01	434	4,709	10.9
2001/02	415	4,783	11.5
2002/03	428	4,867	11.4
2003/04	408	5,584	13.7

Source: FlowInfo

Figure 13. Trends in the number of HIV beddays by type

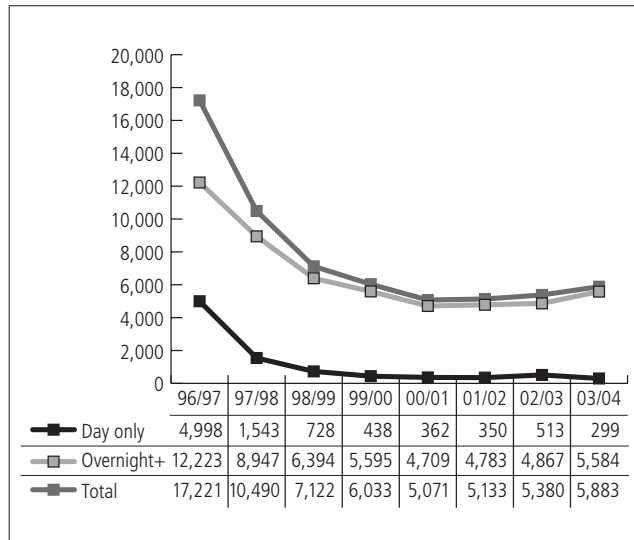
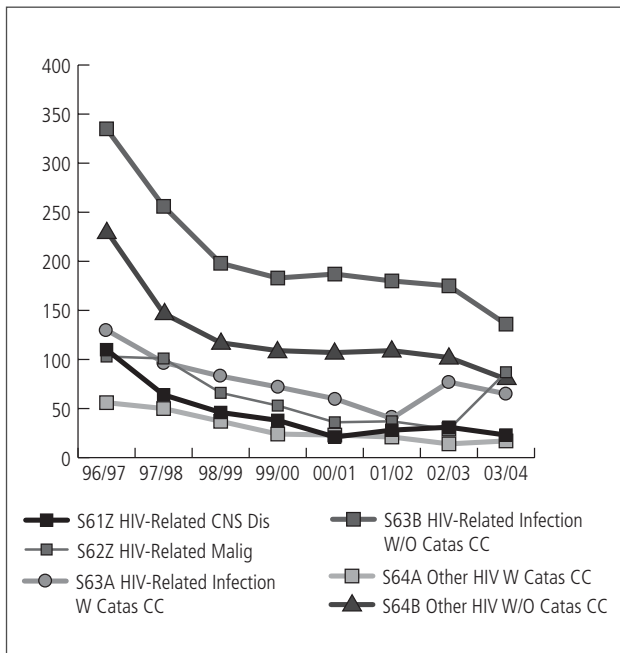
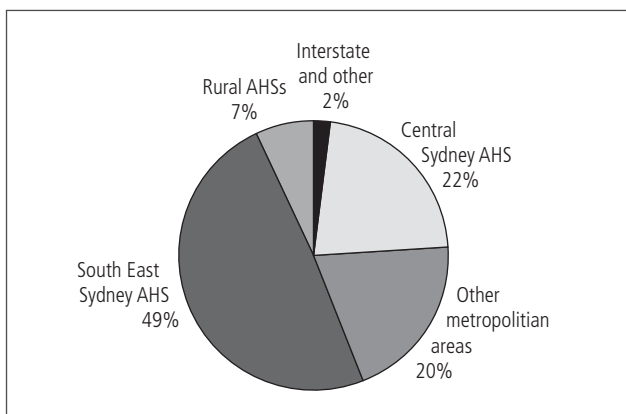


Figure 14. Trends in the number of separations by AN-DRG, 1996/97 to 2003/04



The longer length of stay may be explained by Figure 14, which shows a sharp increase in the number of patients with HIV related malignancy between 2002/03 and 2003/04. The overall increase in patient numbers in 2002/03, especially day only, may be explained by the rise in numbers with HIV related infection with catastrophic complications and co-morbidities. In both of these DRGs, increased patient numbers may be attributed to a few sick individuals who have repeated admissions.

Figure 15. Area of residence of HIV patients, 2003/04



The Area of residence of patients is shown in Figure 15. The proportion of patients living in the former South Eastern Sydney AHS (SESAHS) in 2003/04 has increased by 9% since 2001/02. There has been a decline in numbers in the former Central Sydney (CSAHS) and rural Area Health Services.

Similarly the number of patients treated in the former SESAHS has also increased from 59% in 2001/02 to 65% in 2003/04. There has been a slight decline (2%) of patients treated in the former CSAHS and patients treated in rural Area Health Services has dropped from 14% in 2001/02 to 9% in 2003/04.

Figure 16. Area of treatment of HIV patients, 2003/04

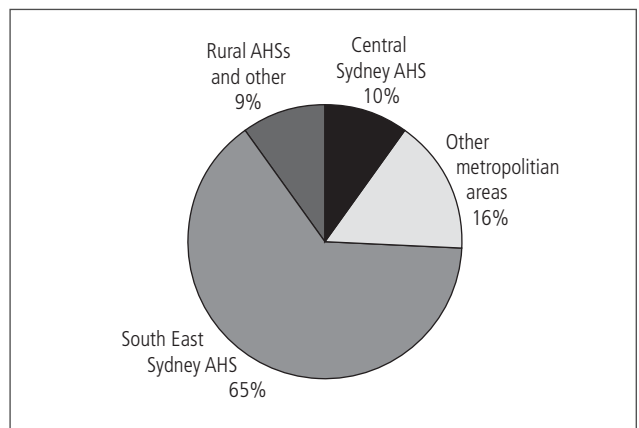
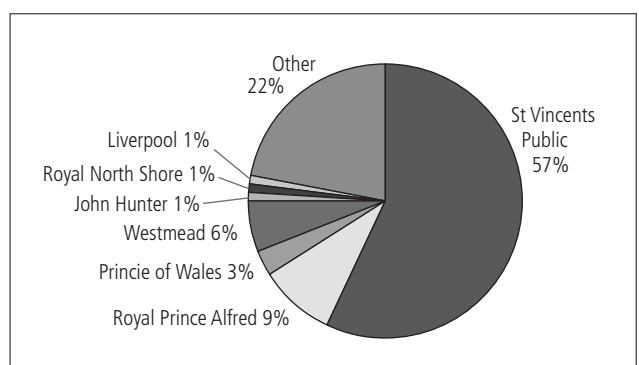


Figure 17. Distribution of HIV/AIDS admissions to NSW hospitals, 2003/04



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This increase of patients treated in the former SESAHS has mainly been borne by St Vincent's public with the proportion of patients increasing from 51% to 57% over the 2 year period; the proportion of patients declined at Royal Prince Alfred Hospital (RPA) from 12% to 9% and at Prince of Wales Hospital (POW) from 5% to 3%. The proportion of patients increased at Westmead Hospital from 3% to 6% while the patient share at other level 5/6 hospitals remained much the same as 2001/02 levels (Figure 17).

The level 5/6 hospitals increased their share of patients in 2002/03 to 80.8% from 75.6% in 2001/02 although their share of beddays decreased from 71.3% in 2001/02 to 65.8% in 2002/03. In 2003/04 separations declined to 77.9% and beddays rose to 71.4%. Moreover the share of patients in level 5/6 hospitals in 2003/04 is up 2% on 2001/02 levels while their share of beddays in 2003/04 is very similar to 2001/02 levels.

Table 7. Number of HIV/AIDS separations and beddays in level 5/6 hospitals in the last 5 years

	1999/00		2000/01		2001/02		2002/03		2003/04	
	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days
St Vincents Public	473	2,647	323	1,753	384	2,061	539	2,044	398	2,225
Royal Prince Alfred	104	742	134	538	90	507	73	442	62	656
Prince of Wales	87	367	64	418	40	468	31	374	24	441
Westmead	31	249	20	134	26	210	78	258	42	332
Royal North Shore	20	265	14	136	10	103	7	168	10	210
John Hunter	17	238	10	129	13	181	9	168	8	210
Liverpool	18	89	46	330	16	132	23	133	7	128
Total level 5/6 hospitals	750	4,597	611	3,438	579	3,662	760	3,541	551	4,200
<i>Level 5/6 as a % of total NSW</i>	<i>81.7</i>	<i>76.2</i>	<i>76.8</i>	<i>67.8</i>	<i>75.6</i>	<i>71.3</i>	<i>80.8</i>	<i>65.8</i>	<i>77.9</i>	<i>71.4</i>
Total NSW	917	6,033	796	5,071	765	5,133	941	5,380	707	5,883

Source: FlowInfo

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The average length of stay of HIV patients (excluding day only patients) in all level 5/6 hospitals increased between 2002/03 and 2003/04 with the overall average length of stay for all NSW hospitals going from 11.4 days in 2002/03 to 13.7 days in 2003/04 (Table 8).

Table 8. Average length of stay for HIV/AIDS patients (excluding day only) at levels 5/6 hospitals by year

Hospital	Average length of stay (days)				
	1999/00	2000/01	2001/02	2002/03	2003/04
St Vincents Public	11.5	10.3	11.2	10.3	12.1
Royal Prince Alfred	12.8	9.4	9.0	11.0	12.7
Prince of Wales	12.2	15.2	21.4	12.4	18.4
Westmead	10.9	6.7	12.5	11.0	14.2
Royal North Shore	15.4	12.1	11.3	17.4	20.8
John Hunter	14.8	12.9	16.3	18.7	26.3
Liverpool	9.9	15.9	9.9	6.8	21.2
Total all NSW hospitals	11.7	10.9	11.5	11.4	13.7

Source: FlowInfo

The former SESAHS continues to be the biggest net importer of HIV patients and beddays in 2003/04 with 24% of patients and 22% of beddays from out of Area (Table 9). The former CSAHS is the biggest net exporter of HIV patients and beddays with 55% of its HIV patients and 38% of its beddays treated outside the Area, mainly in SESAHS hospitals. This flow pattern

was very similar in 2001/02 and the outflows would be regarded as 'natural flows' because the highest concentration of HIV infected residents in the former CSAHS is in Newtown, which is on the border with the former SESAHS. The only other level 5/6 Area which has a net inflow of patients is the former WSAHS.

Table 9. Net inflows and outflows of HIV/AIDS patients and beddays in level 5/6 Areas, 2003/04

Former Area	No. of residents of each Area admitted to a hospital in any Area		No. of patients treated in hospitals in each Area		Net outflows		Net inflows	
	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days
Central Sydney AHS	156	1,333	70	827	86	506		
South East Sydney AHS	344	2,285	454	3,334			110	728
Northern Sydney AHS	17	262	10	208	7	54		
Western Sydney AHS	42	170	48	348			6	178
Hunter AHS	7	180	8	210			1	30
South West Sydney AHS	23	322	8	142	15	180		
Total	589	4,552	598	5,069				

Source: FlowInfo

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Table 10. Number of HIV/AIDS separations and beddays in level 4 Areas compared to level 5/6 hospitals and non 5/6 hospitals in level 5/6 Areas by year

Former Area	1999/00		2000/01		2001/02		2002/03		2003/04	
	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days	Sepns	Bed days
Wentworth AHS	3	25	12	83	4	34	13	47	22	193
Central Coast AHS	7	41	10	80	6	33	9	38	14	172
Illawarra AHS	8	68	13	94	20	80	10	88	6	79
Childrens Hospital at Westmead	1	3	5	56	0	0	0	0	4	8
Corrections HS	0	0	0	0	0	0	0	0	1	1
Northern Rivers AHS	22	134	9	80	46	187	43	210	19	127
Mid North Coast AHS	14	69	3	16	14	49	13	25	4	42
New England AHS	2	5	5	37	3	7	8	50	3	33
Macquarie AHS	6	23	6	15	9	28	0	0	0	0
Mid Western AHS	14	43	12	16	4	11	2	12	2	22
Far West AHS	0	0	0	0	0	0	2	17	1	1
Greater Murray AHS	3	23	3	16	3	49	2	7	4	28
Southern NSW AHS	1	14	6	23	0	0	0	0	1	3
Private	14	56	7	33	4	41	5	67	17	25
Interstate	6	61	22	247	22	247	11	80	11	80
Total level 4 Areas	101	565	113	796	135	766	118	641	109	814
<i>Level 4 as % of total</i>	<i>11.0</i>	<i>9.4</i>	<i>14.2</i>	<i>15.7</i>	<i>17.6</i>	<i>14.9</i>	<i>12.5</i>	<i>11.9</i>	<i>15.4</i>	<i>13.8</i>
Total non 5/6 hosps in Level 5/6 Areas	66	871	72	837	51	705	63	1,198	47	869
<i>Non 5/6 hosps in Level 5/6 Areas as a % of total</i>	<i>7.2</i>	<i>14.4</i>	<i>9.0</i>	<i>16.5</i>	<i>6.7</i>	<i>13.7</i>	<i>6.7</i>	<i>22.3</i>	<i>6.6</i>	<i>14.8</i>
Total level 5/6 hosps	750	4,597	611	3,438	579	3,662	760	3,541	551	4,200
<i>Level 5/6 hosps as a % of total</i>	<i>81.8</i>	<i>76.2</i>	<i>76.8</i>	<i>67.8</i>	<i>75.7</i>	<i>71.3</i>	<i>80.8</i>	<i>65.8</i>	<i>77.9</i>	<i>71.4</i>
TOTAL	917	6,033	796	5,071	765	5,133	941	5,380	707	5,883

Source: FlowInfo

The Area Health Services with level 4 HIV/AIDS services have slightly decreased their share of HIV/AIDS patients from 18% in 2001/02 to 15% in 2003/04 (Table 10). The share of HIV/AIDS bed days in these Areas has decreased slightly from 15% to 14% over the same period. The number of HIV patients and beddays at Wentworth increased over this same period while those in the Northern Rivers declined.

The proportion of the NSW HIV patients admitted to Level 4 hospitals in level 5/6 Areas has remained fairly constant over the last 5 years at about 7% of separations and 14% of bed days (Table 10). However in 2002/03 the number of beddays in these hospitals was 22% of the total beddays utilised by HIV patients in NSW.

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Average length of stay for patients in level 4 Areas has increased over this five-year period from 7.6 days to 9.6 days (Table 11) with most Areas showing a longer average length of stay in 2003/04. It was noted in the 2004 report that this fluctuation could be due to a small number of patients who may be admitted for long periods of time for sub acute care. However all hospitals in all Areas have experienced an increase in average length of stay between 2002/03 and 2003/04.

Table 11. Average length of stay for HIV/AIDS patients (excluding day only) at hospitals in level 4 and below hospitals by year

Former Area	Average length of stay (days)				
	1999/00	2000/01	2001/02	2002/03	2003/04
Wentworth AHS	8.3	8.1	8.5	5.3	11.1
Central Coast AHS	5.9	9.8	6.4	6.8	13.2
Illawarra AHS	8.5	8.4	8.5	14.0	13.2
Childrens Hospital at Westmead	3.0	18.0	0.0	0.0	3.0
Corrections HS	0.0	0.0	0.0	0.0	1.0
Northern Rivers AHS	6.6	9.9	6.2	5.3	7.4
Mid North Coast AHS	7.9	5.3	9.8	4.0	10.5
New England AHS	4.0	7.4	2.3	6.3	11.0
Macquarie AHS	3.8	2.5	3.1	1.0	0.0
Mid Western AHS	10.7	5.0	8.0	6.0	11.0
Far West AHS				16.0	0.0
Greater Murray AHS	7.7	5.3	24.0	3.5	7.0
Southern NSW AHS	14.0	3.8	0.0	0.0	3.0
Private	11.5	7.5	13.3	13.4	3.0
Interstate	12.0	14.2	14.2	9.6	9.7
Total	7.6	9.0	8.6	6.9	9.6

Source: FlowInfo

Seventy eight percent of PLWHA who were residents of level 4 Areas were treated in their own Area of residence in 2003/04 (Table 12) up slightly from 75% in 2001/02. There was some outflow of patients from all Areas in 2003/04 although the numbers were small. The numbers of residents of the former Northern Rivers

requiring hospitalisation has decreased from 63 in 2001/02 to 21 in 2003/04 and 19 of those were treated in Northern Rivers' hospitals. On the other hand, the number of residents of the former Wentworth requiring hospitalisation increased from 9 in 2001/02 to 29 in 2003/04 (Table 12).

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Table 12. Net inflows and outflows of HIV/AIDS patients and beddays in level 4 Areas, 2003/04

Former Area	No. of residents of each Area admitted to a hospital in any Area		No. of patients treated in hospitals in each Area		Net outflows		Net inflows	
	Patients	Bed days	Patients	Bed days	Patients	Bed days	Patients	Bed days
Wentworth AHS	29	216	22	193	7	23		
Central Coast AHS	16	193	14	172	2	21		
Illawarra AHS	8	102	6	79	2	23		
Northern Rivers AHS	21	151	19	127	2	24		
Mid North Coast AHS	6	69	4	42	2	27		
New England AHS	5	48	3	33	2	15		
Macquarie AHS	2	41			2	41		
Mid Western AHS	3	25	2	22	1	3		
Far West AHS	5	44	1	1	4	43		
Greater Murray AHS	7	92	4	28	3	64		
Southern AHS	3	5	1	3	2	2		
Interstate/Other	13	345	16	89	3			256
Private hospitals			17	25	5	67		
Total	118	1,331	109	824	37	353		

Source: FlowInfo