

DRUG & ALCOHOL OFFICE

DISTRIBUTION OF NEEDLES & SYRINGES, WA, 1987-2002

INTRODUCTION

This report presents trends in the quarterly and annual distribution of needles and syringes (N&S) in Western Australia (WA) based on analysis of data provided by the Communicable Diseases Control Branch, Department of Health, which is responsible for the overall administration of needle and syringe programs in WA. This publication is an update of data in *Statistical Bulletin No. 7* (March 1999) and *Statistical Bulletin No. 14* (July 2001). Detailed information about definitions and data limitations is contained in the methods section at page 19.

Needle and syringe programs (NSPs) are a major public health measure in Western Australia (WA) to reduce the transmission of blood borne viruses (BBVs). Injecting drug users (IDUs) have access to sterile injection equipment and other preventative services distributed through mobile needle and syringe exchange programs (NSEPs) operated by the WA AIDS Council (WAAC) in Perth and fixed and mobile NSEPs operated by the WA Substance Users' Association (WASUA) in Perth and Bunbury. Sterile needles and syringes (N&S) are also:

- sold by pharmacies in both metropolitan and non metropolitan areas;
- distributed by a number of non metropolitan hospitals after pharmacy trading hours or where pharmacy provision is not available; and
- sold from a vending machine based at the Kalgoorlie Regional Hospital providing an after hours service in the Kalgoorlie-Boulder area.

STATE

A total of 24,978,643 sterile N&S were distributed in WA from March 1987 to December 2002 (Table 1, page 2). The total number of N&S distributed by type of outlet was:

- pharmacies - 15,588,325 (62.4%);
- NSEP mobile - 5,401,581 (21.6%);
- NSEP fixed site - 2,408,731 (9.6%);
- hospital - 762,920 (3.1%);
- vending machine - 464,926 (1.9%); and
- other outlet - 352,340 (1.4%).

From 1987 the total number of N&S increased each year and reached 845,190 in 1991, then dropped to 779,276 in 1992. From 1992 to 1994 the number of N&S distributed

Table of Contents

Introduction.....	1
State.....	1
Metropolitan Health Region	
Trends 2000-2002.....	5
Year 2002 in detail	5
South West Health Region	
Bunbury	7
Busselton-Margaret River.....	7
Great Southern Health Region	
Albany	9
Goldfields & South East Coastal Health Region	
Kalgoorlie-Boulder.....	11
Esperance	11
Midwest & Murchison Health Region	
Geraldton.....	13
Pilbara & Gascoyne Health Region	
Port Hedland	15
Karratha.....	15
Carnarvon.....	15
Kimberley Health Region	
Broome.....	17
Methods.....	19

doubled to 1,568,048 in 1994, fell to 1,472,900 in 1996 (a fall of 95,148), increased to 3,380,732 in 2001 and then slightly to 3,362,805 in 2002 (Table 1, page 2).

A criterion of success of the State's needles and syringe programs is to facilitate access by IDUs to sterile injection equipment. Therefore, a growth over time in the number of N&S distributed can reflect that there has been an increase in the rate of usage of sterile injecting equipment due to an associated decline in risk practices.

Overall, from 1998 (the first full year of operation) to 2002 the mean number of N&S per day distributed in WA increased from 195 in 1988 to 9,213 in 2002.

On a year by year basis the mean number of N&S distributed per day were **195** (1988), **446** (1989), **1,402** (1990), **2,316** (1991), **2,129** (1992), **3,270** (1993), **4,330** (1994), **4,230** (1995), **4,035** (1996), **5,088** (1997), **6,362**

This publication is available online at
<http://www.dao.health.wa.gov.au>

(1998), 7,566 (1999), 8,409 (2000), 9,262 (2001) and 9,213 (2002).

Quarterly trends in the distribution of N&S through NSEPs, chemists and other outlets (eg hospitals, community health centres, public health units, vending machines and nursing posts) are shown in Figure 1, page 2.

There were relatively few N&S distributed each quarter through NSEPs from 1987 up to mid 1989 followed by a gradual increase to 128,018 in the December quarter 1991 (Table 2, page 3). The number of N&S distributed each quarter through NSEPs fell from the end of 1991 to the December quarter 1994 (100,595) and since has steadily increased to 425,463 in the December quarter 2002 (Table 3, page 4).

Similar numbers of N&S were distributed each quarter by both chemists and NSEPs from 1987 to the end of 1992.

However, from the beginning of 1993 the number of N&S distributed through chemists each quarter exceeded the number of N&S distributed through NSEPs.

The number of N&S distributed through chemists increased by 427% from 155,945 in the March quarter 1993 to 666,788 in the September quarter 2001 and then fell to 423,972 in the December quarter 2002, a fall of more than a third (36.4%).

It can be seen there were a greater number of N&S distributed through NSEPs (425,463) than through chemists in the last two quarters of 2002.

Note: Minor discrepancies occur between annual totals in Table 1 and quarterly totals of breakdowns in Table 3 prior to 2001 due to extensive recent cleaning of the database. As these variations do not affect overall validity of the data, re analysis of quarterly breakdowns prior to 2001 have not performed.

Table 1
Annual totals of needles and syringes distributed by type of outlet, WA, 1987-2002

	Pharmacy	NSEP mobile	NSEP fixed site	Vending machine	Hospital	Other outlet	Total
1987	23,990	6,000	-	-	-	-	29,990
1988	59,380	12,000	-	-	-	-	71,380
1989	120,260	42,648	-	-	-	-	162,908
1990	340,355	171,031	-	-	-	250	511,636
1991	394,820	444,225	-	2,385	2,560	1,200	845,190
1992	420,150	349,806	-	1,920	7,400	-	779,276
1993	817,025	372,234	-	50,491	3,570	1,280	1,244,600
1994	1,132,440	322,983	-	63,535	39,985	9,105	1,568,048
1995	1,057,575	369,671	-	61,030	35,940	5,770	1,529,986
1996	930,135	447,750	-	45,960	40,275	8,780	1,472,900
1997	1,202,595	477,507	1,801	83,340	80,180	11,805	1,857,228
1998	1,522,204	462,317	164,565	70,960	82,640	19,815	2,322,321
1999	1,794,943	477,636	320,820	37,590	96,465	34,225	2,761,679
2000	2,007,390	350,110	519,489	-	147,145	53,830	3,077,964
2001	2,112,086	442,397	608,424	24,035	119,235	74,555	3,380,732
2002	1,652,977	653,266	793,632	23,680	107,525	131,725	3,362,805
Total	14,588,325	5,401,581	2,408,731	464,926	762,920	352,340	24,978,643

Note: Other includes N&S distributed through Community Health Centres, nursing post, Public Health Unit and Community Drug Service Teams.

Figure 1
Quarterly totals of needles and syringes distributed by type of outlet, WA, 1987-2002

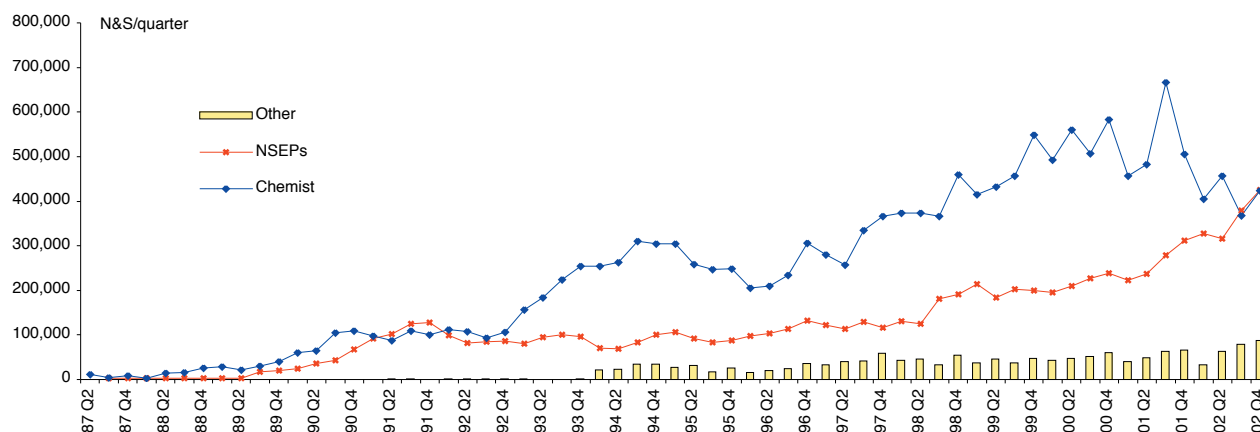


Table 2
Quarterly totals of needles and syringes distributed by major outlet,
1987-1994

Year	Qtr	NSEPs	Chemist	Other	Total
1987	2	11,670	-	-	11,670
	3	3,000	4,080	-	7,080
	4	3,000	8,240	-	11,240
1988	1	3,000	3,430	-	6,430
	2	3,000	14,220	-	17,220
	3	3,000	15,190	-	18,190
	4	3,000	26,540	-	29,540
1989	1	3,000	28,210	-	31,210
	2	3,000	21,370	-	24,370
	3	16,587	30,500	-	47,087
	4	20,061	40,180	-	60,241
1990	1	24,610	60,975	250	85,835
	2	36,117	64,930	-	101,047
	3	42,894	104,700	-	147,594
	4	67,410	109,750	-	177,160
1991	1	91,945	97,530	-	189,475
	2	101,970	88,210	1,400	191,580
	3	124,677	108,780	1,960	235,417
	4	128,018	100,300	400	228,718
1992	1	98,729	112,160	2,000	212,889
	2	81,720	108,000	1,750	191,470
	3	85,179	93,150	2,050	180,379
	4	86,098	106,840	1,600	194,538
1993	1	80,390	155,945	1,620	237,955
	2	95,212	183,705	630	279,547
	3	100,201	223,545	450	324,196
	4	96,431	253,830	2,150	352,411
1994	1	70,553	254,550	20,905	346,008
	2	69,149	262,480	22,395	354,024
	3	82,686	310,620	34,485	427,791
	4	100,595	304,790	34,840	440,225

Table 3
Quarterly totals of needles and syringes distributed by major outlet,
WA, 1995-2002

Year	Qtr	NSEPs	Chemist	Other	Total
1995	1	106,594	304,075	27,820	448,489
	2	91,863	257,920	31,630	381,413
	3	82,999	246,695	17,555	347,249
	4	88,215	248,885	25,735	362,835
1996	1	98,318	205,355	16,010	319,683
	2	104,007	209,450	19,650	333,107
	3	113,875	234,815	24,355	373,045
	4	131,550	306,225	35,260	473,035
1997	1	121,613	280,360	33,695	435,668
	2	113,381	257,515	40,800	411,696
	3	128,640	334,965	42,270	505,875
	4	115,674	366,515	58,560	540,749
1998	1	130,668	372,825	43,365	546,858
	2	124,868	373,365	45,310	543,543
	3	180,986	366,305	33,105	580,396
	4	190,360	459,336	54,205	703,901
1999	1	214,410	415,619	37,066	667,095
	2	184,474	431,914	45,825	662,213
	3	201,946	456,992	38,055	696,993
	4	198,946	548,512	47,510	794,968
2000	1	195,440	493,022	43,520	731,982
	2	209,498	559,586	47,175	816,259
	3	226,985	507,362	51,536	785,883
	4	238,676	582,745	60,156	881,577
2001	1	223,120	456,972	39,895	719,987
	2	236,293	482,184	49,375	767,852
	3	279,264	666,788	62,700	1,008,752
	4	312,144	506,142	65,855	884,141
2002	1	326,891	404,343	33,200	764,434
	2	315,491	456,492	63,074	835,057
	3	379,053	368,170	79,249	826,472
	4	425,463	423,972	87,407	936,842

Metropolitan Health Region

Trends 2000-2002

An analysis was undertaken of metropolitan data for the three year period from 2000 to 2002 to identify broad areas in patterns of the distribution of N&S. This analysis identified three localities in which a total of more than 500,000 N&S were distributed:

- Dianella-Ballajura (807,194);
- Cannington-Gosnells (622,522); and
- Mount Lawley-Maylands (602,293).

There were a further seven localities when there was a total of between 300,000 and 499,999 N&S distributed in the three year period as follows:

- Victoria Park-Redcliffe (483,091);
- Leederville-Tuart Hill (400,628);
- Kwinana-Safety Bay (395,573);
- Balcatta-Craigie (384,913);
- Bayswater-Bullsbrook (376,607);
- Bicton-Fremantle (328,154); and
- Mandurah (325,480).

The mean rate per 10,000 population of N&S distributed by locality for the three year period shows, excluding the Perth inner city area (in which there were a number of high volume mobile NSEP sites), that the highest rate of 57,952 N&S per 10,000 population was in the Mount Lawley-Maylands locality (Table 5, page 6).

The ranked mean rate ratios (based on the three years) for the localities compared to the overall metropolitan rate is shown in Figure 2. This shows that rates well above the mean metropolitan rate occurred in the localities of:

- Mount Lawley-Maylands (3.03 times higher);
- Bicton-Fremantle (1.96 times higher);
- Leederville-Tuart Hill 1.54 times higher); and
- Victoria Park-Redcliffe (1.28 times higher).

Year 2002 in detail

In the year 2002 a total of 3,003,228 N&S were distributed throughout the whole State, of which 2,585,444 (86.1%) were distributed in the Perth metropolitan area (Table 4, page 6).

Of the 2,585,444 N&S distributed in the Perth metropolitan area, 1,455,518 (56.3%) were through chemists, 497,640 (19.2%) were through the WA AIDS Council's mobile needle and syringe exchange program (NSEP), 628,061 (24.3%) were through the WA Substance Users Association's fixed site NSEP and 4,225 (0.2%) were through other outlets (such as youth organisations, health clinics, Phoenix and the street based sex workers outreach project). *Note: Since Rockingham Hospital ceased N&S distribution in 2001 no N&S have been distributed through hospitals in the metropolitan area.*

Figure 2
Mean rate ratio of distribution of needles & syringes by postcode locality, Perth metropolitan area, 2000-2002

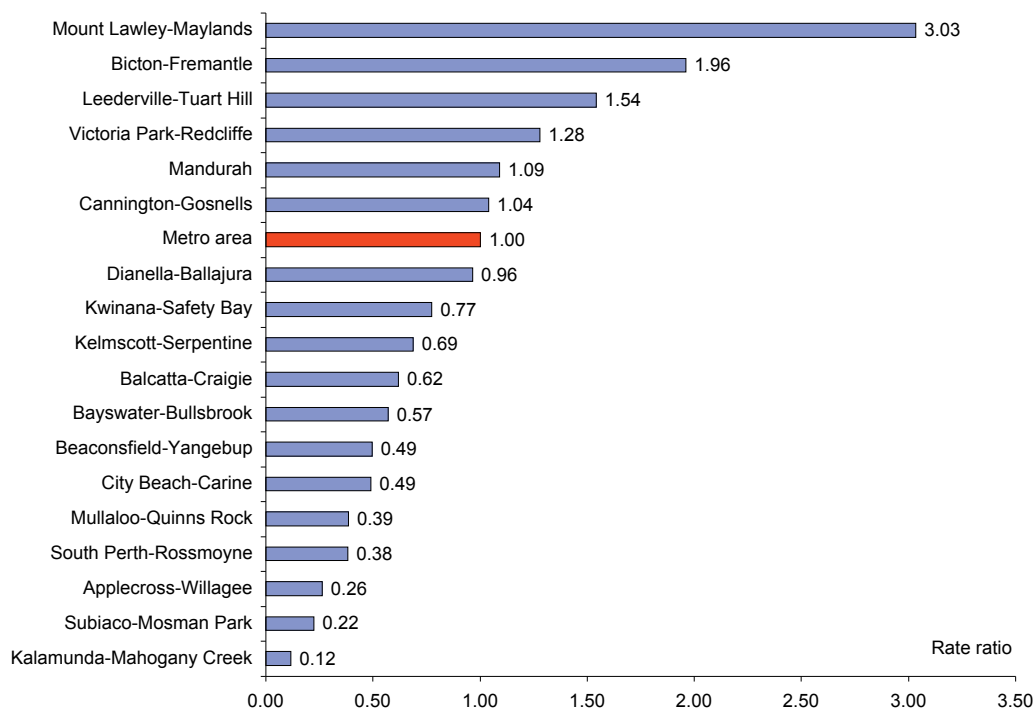


Table 4
Distribution of needles & syringes, metropolitan & country areas, 2002

Type of outlet	Total distributed
Metropolitan area	
Chemist	1,455,518
Needle & syringe exchange program (mobile)	497,640
Needle & syringe exchange program (fixed)	628,061
Hospital	-
Other	4,225
Metropolitan sub total	2,585,444
Country & regional areas	417,784
State total	3,003,228

Table 5
Distribution of needles & syringes by postcode locality, Perth metropolitan area, 2000-2002

Locality	Postcodes	Needles and syringes			Total 2000-2002	Mean rate (3 yrs) (per 10,000 pop)
		2000	2001	2002		
Perth Inner City	6000, 6003-6005	655,568	762,528	723,076	2,141,172	-
Mount Lawley-Maylands	6050-6052	207,986	237,412	156,895	602,293	57,952
Bicton-Fremantle	6157-6161	121,940	102,256	103,958	328,154	37,434
Leederville-Tuart Hill	6006-6007, 6016-6017, 6060	137,213	143,247	120,168	400,628	29,452
Victoria Park-Redcliffe	6100-6106	218,819	141,257	123,015	483,091	24,463
Mandurah	6210	72,738	117,798	134,944	325,480	20,892
Cannington-Gosnells	6107-6110, 6147	186,397	222,942	213,183	622,522	19,849
Dianella-Ballajura	6059, 6061-6064, 6066- 6068	290,799	276,023	240,372	807,194	18,425
Kwinana-Safety Bay	6167-6172	138,129	138,723	118,721	395,573	14,799
Kelmscott-Serpentine	6111-6112, 6121-6126	80,234	91,477	82,319	254,030	13,158
Balcatta-Craigie	6021-6026	174,804	127,301	82,808	384,913	11,847
Bayswater-Bullsbrook	6053-6058, 6069, 6084	123,538	127,503	125,566	376,607	10,878
Beaconsfield-Yangebup	6162-6166	92,228	93,370	79,377	264,975	9,451
City Beach-Carine	6015, 6018-6020, 6029	81,308	79,280	60,490	221,078	9,365
Mullaloo-Quinn's Rock	6027-6028, 6030-6031, 6032-6035, 6037, 6041- 6044, 6065	49,190	101,370	98,730	249,290	7,366
South Perth-Rossmoyne	6148, 6151-6152	29,999	46,100	42,678	118,777	7,307
Applecross-Willagee	6149-6150, 6153-6156	79,554	45,902	39,143	164,599	5,017
Subiaco-Mosman Park	6008-6012, 6014	36,956	36,961	30,184	104,101	4,276
Kalamunda-Mahogany Creek	6070-6074, 6076, 6081- 6083	12,622	10,395	7,310	30,327	2,232
Total metro		2,790,022	2,901,845	2,582,937	8,274,804	19,102

South West Health Region

Information about the quarterly distribution of N&S through pharmacies, hospitals and approved exchange programs within this Health Region is available for the Bunbury-Eaton and Busselton-Margaret River postcode areas from 1993 to 2002 (Table 6, page 8).

It should be noted this data may reflect injecting drug use of persons living in adjacent areas who obtained N&S in these towns as they did not have local access to N&S.

Bunbury

From 1993 to early 1997 about 4,000 to 5,000 N&S were distributed each quarter (Figure 3). Since the June quarter 1997 there was a steady growth in the quarterly total

of N&S distributed, reaching 19,256 in the June quarter 2000. In the September quarter 2000 the number of N&S dropped to 3,641. This is believed to be due to unusual local factors. Since this time the number of N&S has gradually increased, with a total of 13,919 distributed in the September quarter 2002.

Busselton-Margaret River

There was a steady increase in the number of N&S distributed from 1993 to the December quarter 1998 when 8,520 N&S were distributed (Figure 4). From early 1999 to the June quarter 2002 the number of N&S fluctuated between about 4,000 to 5,000 per quarter and have since grown with a total of 9,595 in the December quarter 2002.

Figure 3
Quarterly needles and syringes, Bunbury-Eaton postcode areas, 1993-2002

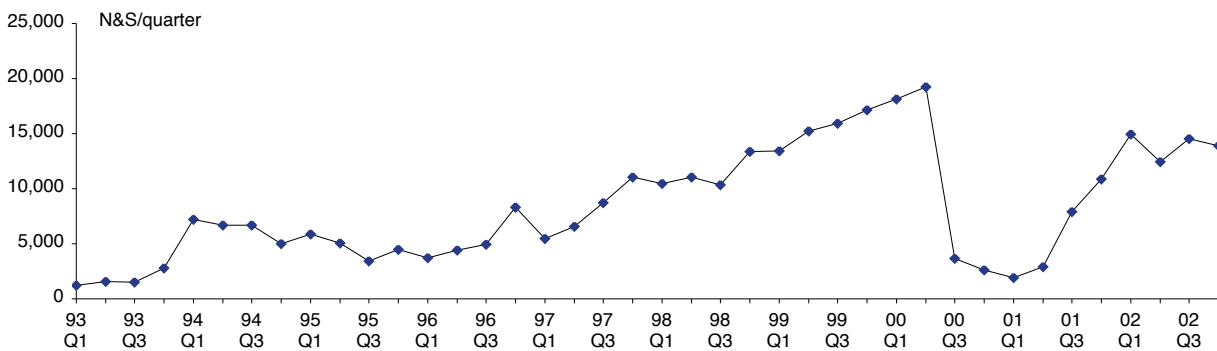


Figure 4
Quarterly needles and syringes, Busselton-Margaret River postcode areas, 1993-2002

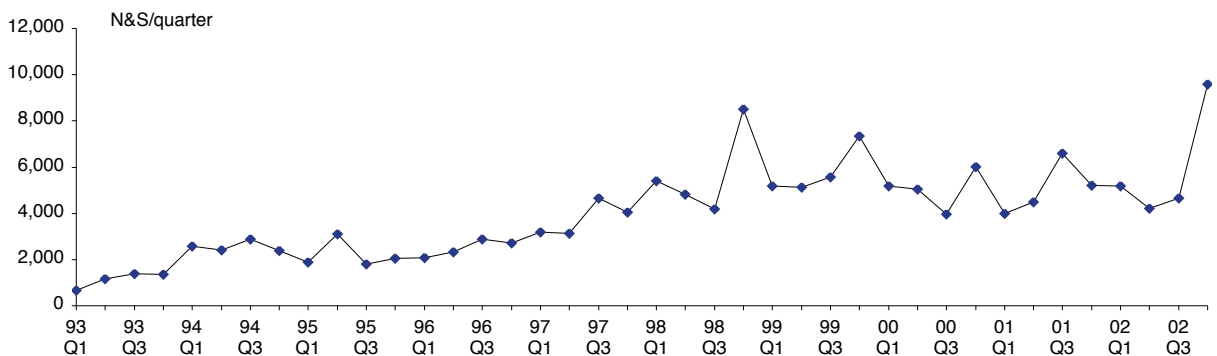


Table 6
Quarterly totals of needles and syringes, selected country areas, 1993-2002

	Bunbury 6230	Busselton- Margaret River 6280-6285		Bunbury 6230	Busselton- Margaret River 6280-6285
1993			1998		
Qtr 1	1,200	660	Qtr 1	10,485	5,410
Qtr 2	1,555	1,155	Qtr 2	11,025	4,815
Qtr 3	1,530	1,375	Qtr 3	10,350	4,175
Qtr 4	2,800	1,365	Qtr 4	13,360	8,520
Total	7,085	4,555	Total	45,220	22,920
1994			1999		
Qtr 1	7,230	2,570	Qtr 1	13,442	5,189
Qtr 2	6,695	2,420	Qtr 2	15,244	5,138
Qtr 3	6,705	2,890	Qtr 3	15,921	5,570
Qtr 4	4,980	2,390	Qtr 4	17,162	7,332
Total	25,610	10,270	Total	61,769	23,229
1995			2000		
Qtr 1	5,875	1,890	Qtr 1	18,167	5,172
Qtr 2	5,055	3,100	Qtr 2	19,256	5,044
Qtr 3	3,425	1,790	Qtr 3	3,641	3,976
Qtr 4	4,500	2,040	Qtr 4	2,609	6,006
Total	18,855	8,820	Total	43,673	20,198
1996			2001		
Qtr 1	3,715	2,080	Qtr 1	1,929	3,998
Qtr 2	4,440	2,335	Qtr 2	2,928	4,484
Qtr 3	4,970	2,885	Qtr 3	7,888	6,593
Qtr 4	8,325	2,720	Qtr 4	10,871	5,213
Total	21,450	10,020	Total	23,616	20,288
1997			2002		
Qtr 1	5,480	3,200	Qtr 1	14,921	5,189
Qtr 2	6,590	3,135	Qtr 2	12,425	4,225
Qtr 3	8,745	4,655	Qtr 3	14,517	4,647
Qtr 4	11,025	4,035	Qtr 4	13,919	9,595
Total	31,840	15,025	Total	55,782	23,656

Great Southern Health Region

Information about the quarterly distribution of N&S through pharmacies and hospitals within this Health Region is available for the Albany postcode area from 1993 to 2002 (Table 7, page 10).

Since mid 1999 the number of N&S have steadily increased, reaching 7,997 in the September quarter 2001. However, after the September 2002 the number of N&S have declined somewhat with between about 2,500 and 4,000 N&S distributed per quarter.

Albany

There were relatively few N&S distributed from 1993 to early 1999, fluctuating around 500 to 600 N&S per quarter (Figure 5).

Figure 5
Quarterly needles and syringes, Albany postcode area, 1993-2002

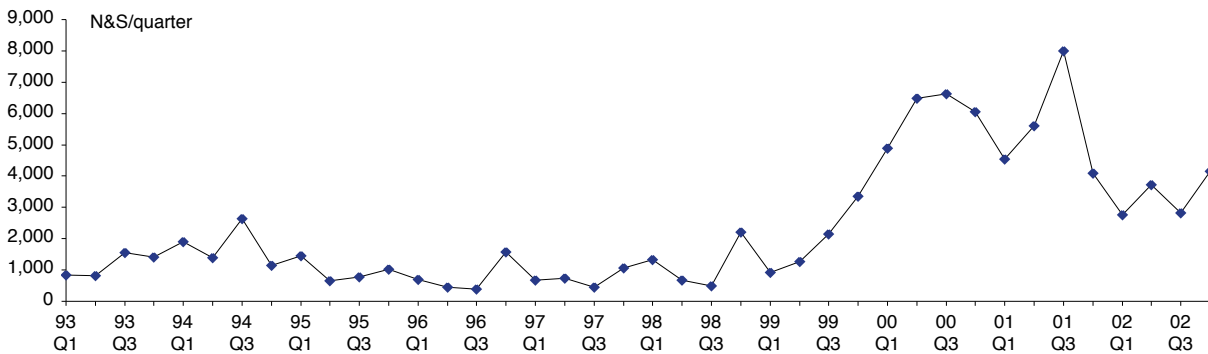


Table 7
Quarterly totals of needles and syringes, selected
country areas, 1993-2002

	Albany 6330		Albany 6330
1993		1998	
Qtr 1	840	Qtr 1	1,330
Qtr 2	810	Qtr 2	685
Qtr 3	1,555	Qtr 3	500
Qtr 4	1,420	Qtr 4	2,204
Total	4,625	Total	4,719
1994		1999	
Qtr 1	1,910	Qtr 1	929
Qtr 2	1,390	Qtr 2	1,260
Qtr 3	2,635	Qtr 3	2,153
Qtr 4	1,150	Qtr 4	3,358
Total	7,085	Total	7,700
1995		2000	
Qtr 1	1,450	Qtr 1	4,887
Qtr 2	645	Qtr 2	6,483
Qtr 3	780	Qtr 3	6,621
Qtr 4	1,025	Qtr 4	6,046
Total	3,900	Total	24,037
1996		2001	
Qtr 1	705	Qtr 1	4,541
Qtr 2	455	Qtr 2	5,611
Qtr 3	395	Qtr 3	7,997
Qtr 4	1,565	Qtr 4	4,092
Total	3,120	Total	22,241
1997		2002	
Qtr 1	670	Qtr 1	2,762
Qtr 2	745	Qtr 2	3,718
Qtr 3	450	Qtr 3	2,815
Qtr 4	1,065	Qtr 4	4,160
Total	2,930	Total	13,455

Goldfields & South East Coastal Health Region

Information about the quarterly distribution of N&S through pharmacies and hospitals within this Health Region is available for the Kalgoorlie-Boulder and the Esperance postcodes area from 1993 to 2002 (Table 8, page 12).

Kalgoorlie-Boulder

From the March quarter 1993 to the December quarter 1997 the number of N&S distributed increased by nearly five fold, from 7,100 to 32,670 (Figure 6).

Since 1998 the number of N&S distributed has fluctuated between about 25,000 and 30,000 N&S per quarter (except for the September quarters 2000 and 2002).

Esperance

In Esperance very few N&S were distributed from 1993 to mid 1997.

The number of N&S distributed increased by nearly four fold, from 1,430 in the June quarter 1997 to 5,412 in the December quarter 2000, then dropped to 2,480 the June quarter 2002 (Figure 7).

Since mid 2002 the number of N&S has increased to just under 7,000 in the December quarter 2002.

Figure 6
Quarterly needles and syringes, Kalgoorlie-Boulder postcode areas, 1993-2002

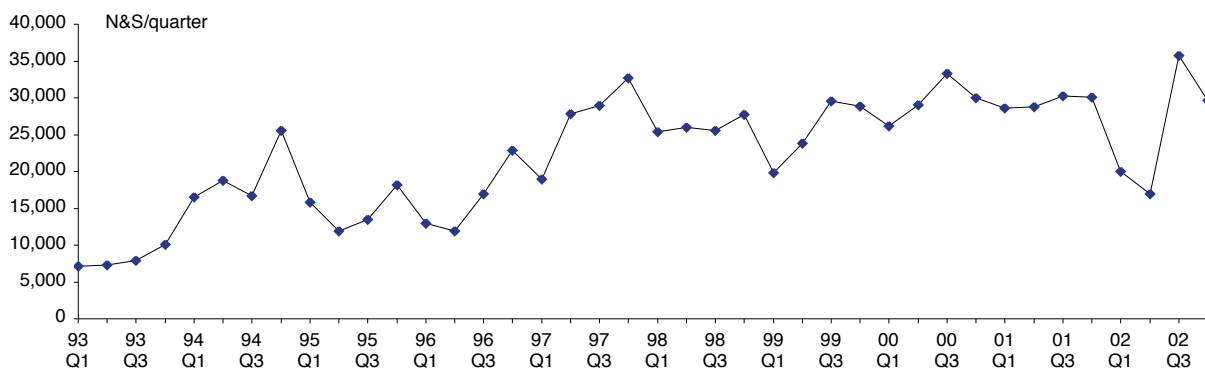


Figure 7
Quarterly needles and syringes, Esperance postcode area, 1993-2002

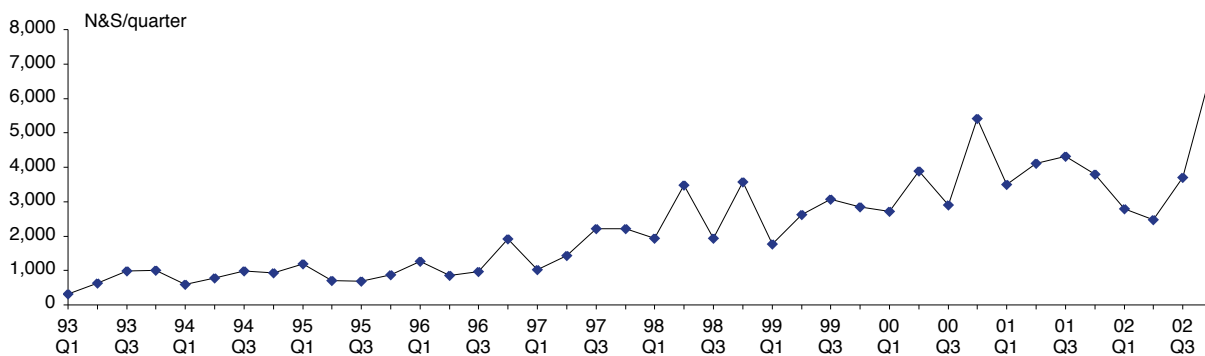


Table 8
Quarterly totals of needles and syringes, selected country areas, 1993-2002

	Kalgoorlie- Boulder 6430-6432	Esperance 6450		Kalgoorlie- Boulder 6430-6432	Esperance 6450
1993			1998		
Qtr 1	7,100	320	Qtr 1	25,360	1,940
Qtr 2	7,345	635	Qtr 2	25,960	3,470
Qtr 3	7,885	995	Qtr 3	25,560	1,935
Qtr 4	10,045	1,005	Qtr 4	27,750	3,570
Total	32,375	2,955	Total	104,630	10,915
1994			1999		
Qtr 1	16,500	590	Qtr 1	19,846	1,769
Qtr 2	18,790	780	Qtr 2	23,793	2,624
Qtr 3	16,720	985	Qtr 3	29,585	3,065
Qtr 4	25,580	925	Qtr 4	28,885	2,840
Total	77,590	3,280	Total	102,109	10,298
1995			2000		
Qtr 1	15,810	1,190	Qtr 1	26,178	2,713
Qtr 2	11,870	700	Qtr 2	29,074	3,887
Qtr 3	13,485	680	Qtr 3	33,311	2,910
Qtr 4	18,145	880	Qtr 4	29,973	5,412
Total	59,310	3,450	Total	118,536	14,922
1996			2001		
Qtr 1	12,995	1,270	Qtr 1	28,633	3,505
Qtr 2	11,880	860	Qtr 2	28,806	4,115
Qtr 3	16,985	960	Qtr 3	30,258	4,319
Qtr 4	22,850	1,920	Qtr 4	30,053	3,788
Total	64,710	5,010	Total	117,750	15,727
1997			2002		
Qtr 1	18,970	1,020	Qtr 1	20,008	2,795
Qtr 2	27,850	1,430	Qtr 2	16,969	2,480
Qtr 3	28,925	2,205	Qtr 3	35,766	3,697
Qtr 4	32,670	2,210	Qtr 4	29,694	6,890
Total	108,415	6,865	Total	102,437	15,862

Midwest & Murchison Health Region

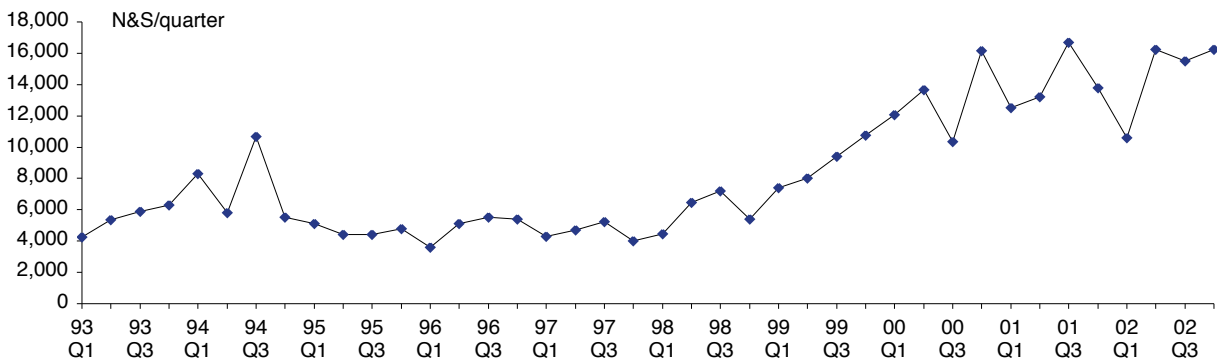
Information about the quarterly distribution of N&S through pharmacies and hospitals within this Health Region is available for the Geraldton postcode area from 1993 to 2002 (Table 9, page 14).

Over the four year period from 1999 to 2002, the number of N&S steadily increased, more than doubling from 7,421 in the March quarter 1999 to 16,227 in the December quarter 2002.

Geraldton

From 1993 to mid 1998 the number of N&S remained relatively constant (apart from a peak of 10,665 in the September quarter 1994), with about 4,000 distributed per quarter (Figure 8).

Figure 8
Quarterly needles and syringes, Geraldton postcode area, 1993-2002



Note: Recent short term variations in quarterly totals may reflect changes in the manner in which supplies are ordered to save on transport costs (eg through public health units rather than through each separate outlet) and may also be due to less frequent but larger orders to ensure continuity of supply over holiday periods.

Table 9
Quarterly totals of needles and syringes, selected country
areas, 1993-2002

Geraldton 6530		Geraldton 6530	
1993		1998	
Qtr 1	4,265	Qtr 1	4,440
Qtr 2	5,365	Qtr 2	6,470
Qtr 3	5,900	Qtr 3	7,205
Qtr 4	6,300	Qtr 4	5,383
Total	21,830	Total	23,498
1994		1999	
Qtr 1	8,310	Qtr 1	7,421
Qtr 2	5,815	Qtr 2	8,038
Qtr 3	10,665	Qtr 3	9,412
Qtr 4	5,540	Qtr 4	10,754
Total	30,330	Total	35,625
1995		2000	
Qtr 1	5,110	Qtr 1	12,077
Qtr 2	4,420	Qtr 2	13,658
Qtr 3	4,430	Qtr 3	10,349
Qtr 4	4,785	Qtr 4	16,170
Total	18,745	Total	52,254
1996		2001	
Qtr 1	3,595	Qtr 1	12,519
Qtr 2	5,110	Qtr 2	13,215
Qtr 3	5,515	Qtr 3	16,689
Qtr 4	5,415	Qtr 4	13,767
Total	19,635	Total	56,190
1997		2002	
Qtr 1	4,290	Qtr 1	10,613
Qtr 2	4,695	Qtr 2	16,258
Qtr 3	5,225	Qtr 3	15,494
Qtr 4	4,010	Qtr 4	16,227
Total	18,220	Total	58,592

Pilbara & Gascoyne Health Region

Information about the quarterly distribution of N&S through pharmacies, public health units and hospitals within this Health Region is available for the Port Hedland, Karratha and Carnarvon postcode areas from 1993 to 2002 (Table 10, page 16).

Port Hedland

Few N&S were distributed from 1993 until mid 1994, then steadily increased from 1,580 in the September quarter 1994 to 5,375 in the December quarter 2000 (Figure 9). Over the last two years the number of N&S have declined with a pattern of marked variations between quarters.

Karratha

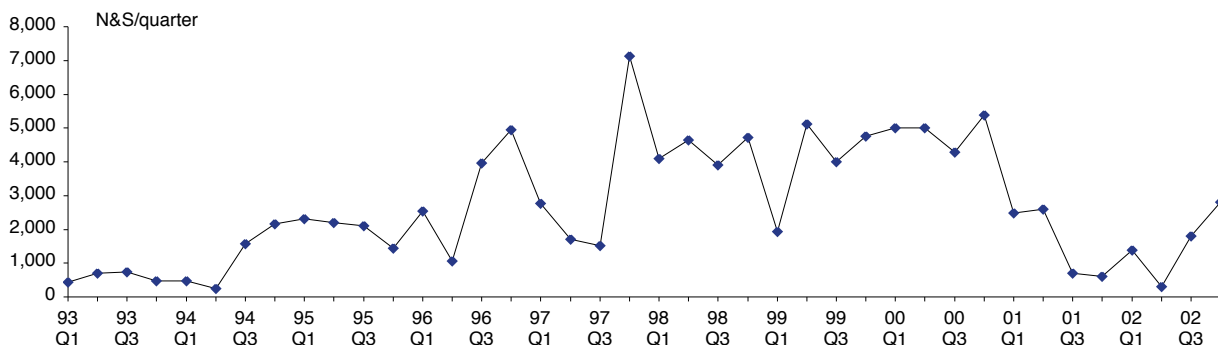
There has been a fluctuating pattern of N&S distributed in Karratha (Figure 10). Few N&S were distributed up to

mid 1998, then increased to 7,816 in the June quarter 2001. The number of N&S dropped to 1,059 in the March quarter 2002, then sharply increased, with more than 11,000 distributed in both the June and September quarters 2002, followed by a fall to just over 1,000 N&S in the December quarter 2002.

Carnarvon

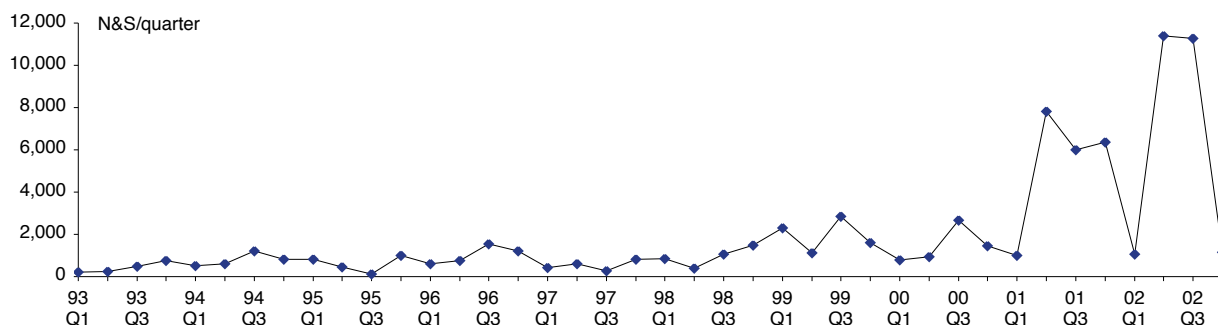
Few N&S were distributed up to early 1996, then increased to 6,860 in the December quarter 2001 (Figure 11, page 16). The number of N&S dropped sharply to 450 in the September quarter 2002, then increased markedly to 11,300 in the December quarter 2002.

Figure 9
Quarterly needles and syringes, Port Hedland postcode area, 1993-2002



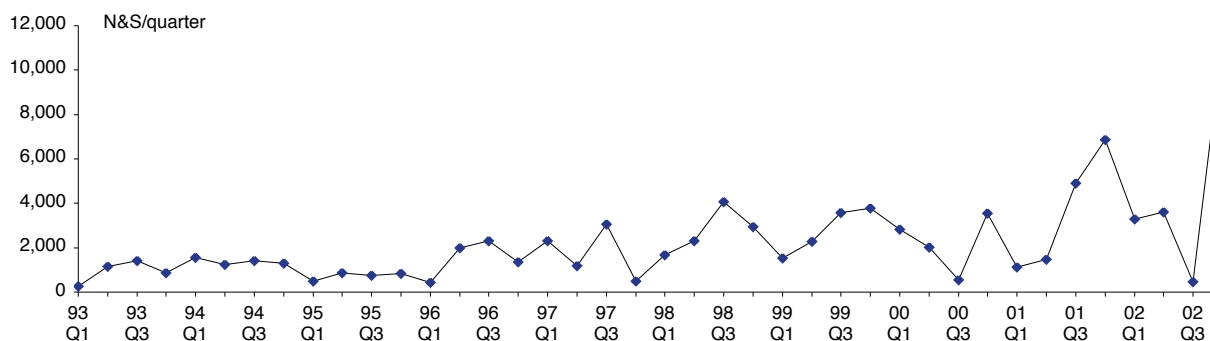
Note: Recent short term variations in quarterly totals may reflect changes in the manner in which supplies are ordered to save on transport costs (eg through public health units rather than through each separate outlet) and may also be due to less frequent but larger orders to ensure continuity of supply over holiday periods.

Figure 10
Quarterly needles and syringes, Karratha postcode area, 1993-2002



Note: Recent short term variations in quarterly totals may reflect changes in the manner in which supplies are ordered to save on transport costs (eg through public health units rather than through each separate outlet) and may also be due to less frequent but larger orders to ensure continuity of supply over holiday periods.

Figure 11
Quarterly needles and syringes, Carnarvon postcode area, 1993-2002



Note: Recent short term variations in quarterly totals may reflect changes in the manner in which supplies are ordered to save on transport costs (eg through public health units rather than through each separate outlet) and may also be due to less frequent but larger orders to ensure continuity of supply over holiday periods.

Table 10
Quarterly totals of needles and syringes, selected country areas, 1993-2002

	Port Hedland 6721-6722	Carnarvon 6701	Karratha 6714		Port Hedland 6721-6722	Carnarvon 6701	Karratha 6714
1993				1998			
Qtr 1	440	250	210	Qtr 1	4,100	1,660	850
Qtr 2	695	1,150	240	Qtr 2	4,640	2,310	390
Qtr 3	745	1,425	480	Qtr 3	3,910	4,080	1,065
Qtr 4	480	875	750	Qtr 4	4,725	2,956	1,475
Total	2,360	3,700	1,680	Total	17,375	11,006	3,780
1994				1999			
Qtr 1	480	1,550	515	Qtr 1	1,925	1,517	2,295
Qtr 2	240	1,250	610	Qtr 2	5,125	2,278	1,116
Qtr 3	1,580	1,400	1,205	Qtr 3	4,000	3,572	2,852
Qtr 4	2,170	1,300	810	Qtr 4	4,750	3,772	1,601
Total	4,470	5,500	3,140	Total	15,800	11,139	7,864
1995				2000			
Qtr 1	2,310	500	810	Qtr 1	5,000	2,836	798
Qtr 2	2,205	860	450	Qtr 2	5,000	2,011	938
Qtr 3	2,100	740	126	Qtr 3	4,280	536	2,660
Qtr 4	1,440	840	990	Qtr 4	5,375	3,562	1,454
Total	8,055	2,940	2,376	Total	19,655	8,945	5,850
1996				2001			
Qtr 1	2,540	420	605	Qtr 1	2,475	1,120	993
Qtr 2	1,070	2,000	755	Qtr 2	2,595	1,480	7,816
Qtr 3	3,970	2,310	1,560	Qtr 3	700	4,912	5,994
Qtr 4	4,945	1,350	1,210	Qtr 4	600	6,860	6,371
Total	12,525	6,080	4,130	Total	6,370	14,372	21,174
1997				2002			
Qtr 1	2,760	2,310	420	Qtr 1	1,375	3,300	1,059
Qtr 2	1,705	1,170	600	Qtr 2	300	3,600	11,394
Qtr 3	1,510	3,060	270	Qtr 3	1,800	450	11,278
Qtr 4	7,130	480	820	Qtr 4	2,800	11,300	1,149
Total	13,105	7,020	2,110	Total	6,275	18,650	24,880

Kimberley Health Region

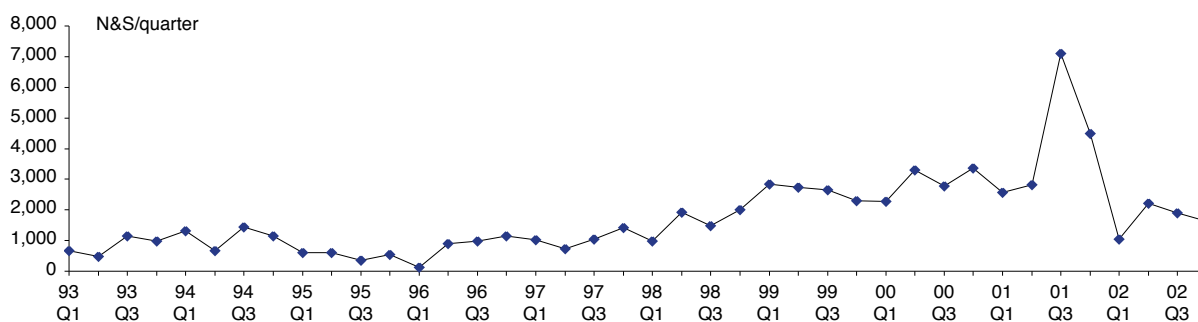
Information about the quarterly distribution of N&S through pharmacies and hospitals within this Health Region is available for the Broome postcode area from 1993 to 2002 (Table 11, page 18).

There was a more than two fold increase in the number of N&S from 2,830 N&S in the June quarter 2001 to 7,110 in the September quarter 2001. Since the September quarter 2001 peak the number of N&S has fallen, with a total of 1,620 N&S distributed in the December quarter 2002.

Broome

From 1993 to early 1998 relatively few N&S were distributed in this postcode area. The number of N&S gradually increased from a total of 1,915 in the March quarter 1998 to a total of 2,830 in the March quarter 2001 (Figure 12).

Figure 12
Quarterly needles and syringes, Broome postcode area, 1993-2002



Note: Recent short term variations in quarterly totals may reflect changes in the manner in which supplies are ordered to save on transport costs (eg through public health units rather than through each separate outlet) and may also be due to less frequent but larger orders to ensure continuity of supply over holiday periods.

Table 11
Quarterly totals of needles and syringes,
selected country areas, 1993-2002

	Broome 6725		Broome 6725
1993		1998	
Qtr 1	660	Qtr 1	990
Qtr 2	480	Qtr 2	1,915
Qtr 3	1,140	Qtr 3	1,490
Qtr 4	990	Qtr 4	2,005
Total	3,270	Total	6,400
1994		1999	
Qtr 1	1,320	Qtr 1	2,840
Qtr 2	660	Qtr 2	2,745
Qtr 3	1,440	Qtr 3	2,650
Qtr 4	1,140	Qtr 4	2,305
Total	4,560	Total	10,540
1995		2000	
Qtr 1	600	Qtr 1	2,280
Qtr 2	600	Qtr 2	3,300
Qtr 3	360	Qtr 3	2,775
Qtr 4	540	Qtr 4	3,360
Total	2,100	Total	11,715
1996		2001	
Qtr 1	120	Qtr 1	2,560
Qtr 2	900	Qtr 2	2,830
Qtr 3	980	Qtr 3	7,110
Qtr 4	1,140	Qtr 4	4,500
Total	3,140	Total	17,000
1997		2002	
Qtr 1	1,020	Qtr 1	1,050
Qtr 2	730	Qtr 2	2,220
Qtr 3	1,050	Qtr 3	1,895
Qtr 4	1,420	Qtr 4	1,620
Total	4,220	Total	6,785

Methods

As monthly records are maintained of the number of N&S ordered by each individual chemist, it is possible to collate the number of N&S by outlet and locality for each community based pharmacy. In early 1999 the operator of the mobile NSEP, the WA AIDS Council, introduced separate recording of the number of N&S distributed at each of the sites at which the van operated on different days of the week.

With the enhancements to the mobile NSEP data, it was possible to undertake an analysis of the total number of N&S distributed in the year 2000 in the Perth metropolitan area based on postcode locality for all outlets.

The metropolitan area was broken up into 18 localities based on groups of adjacent postcode districts. Each locality contains the total number of N&S distributed in that geographical area. A postcode district may encompass more than one suburb. This does not mean that N&S were distributed from outlets in all suburbs listed. The suburbs within each locality are listed in Appendix 1 (page 20).

There are limitations in using postcode data to identify possible differences between localities in the utilisation of N&S by injecting drug users as in some areas chemists do not sell N&S. This could mean that some areas could have apparently higher rates than some other areas because IDUs have come from adjacent suburbs to access

the nearest local chemist that sold N&S as Fitpacks® and SharpzKitz®. Also chemists in some areas which charge lower prices for Fitpacks® are likely to attract IDUs from areas where there are higher prices.

There are other shortcomings in making inferences about underlying patterns of injecting drug use based on postcode data. For instance, some areas which have higher rates may have outlets which are on major transport routes for people living in outlying metropolitan areas.

Another possible reason for distortion in data is that there is a small number of after hours' pharmacies who sell N&S, most of whom are located close to the inner metropolitan area. (Up to the end of 2000 there was only one 24 hour pharmacy in the metropolitan area, which was located in Mount Lawley.)

Both the fixed and mobile NSEPs distribute very large numbers of N&S in the Perth inner city area. While this could be misinterpreted as indicating Northbridge is an area in which high levels of injecting drug use occurs, this does not necessarily indicate more prevalent injecting drug use by its residents. Indeed, the contrary may be the case, as Northbridge is the Perth metropolitan area's major late night entertainment district and has a concentration of night clubs and bars. It also contains a number of boarding houses, hostels and overnight shelters which are used by a transient population.

Appendix 1: Metropolitan postcode localities

Perth Inner City

6000, 6003-6005

Perth CBD, Northbridge, East Perth, West Perth

Mount Lawley-Maylands

6050-6052

Mount Lawley, Menora, Coolbinia, Maylands, Inglewood, Bedford

Bicton-Fremantle

6157-6161

Bicton, Palmyra, East Fremantle, North Fremantle, Fremantle, Rottnest Island

Victoria Park-Redcliffe

6100-6106

Victoria Park, East Victoria Park, Carlisle, Bentley, Rivervale, Belmont, Redcliffe, Cloverdale, Welshpool, Kewdale, St James

Leederville-Tuart Hill

6006-6007, 6106-6107, 6060

Leederville, North Perth, Glendalough, Mount Hawthorn, Osborne Park, Tuart Hill, Joondanna, Yokine

Dianella-Ballajura

6061-6064, 6066-6068

Dianella, Nollamara, Mirrabooka, Balga, Westminster, Morley, Embleton, Noranda, Malaga, Beechboro, Girrawheen, Koondoola, Alexander Heights, Marangaroo, Ballajura, Whiteman, Cullacabardee

Cannington-Gosnells

6107-6110, 6147

Wilson, Cannington, East Cannington, Kenwick, Wattle Grove, Beckenham, Queens Park, Thornlie, Maddington, Gosnells, Huntingdale, Langford, Lynwood

Kwinana-Safety Bay

6167-6172

Kwinana, Orelia, Parmelia, Calista, Rockingham, Safety Bay, Waikiki, Warnbro, Port Kennedy, Wellard, Leda, Baldivis

Balcatta-Craigie

6021-6026

Balcatta, Stirling, Hamersley, Duncraig, Greenwood, Warwick, Hillarys, Craigie, Kallaroo, Padbury, Kingsley, Woodvale

Kelmscott-Byford

6111-6112, 6201

Kelmscott, Armadale, Forrestdale, Byford, Westfield, Roleystone, Bedfordale, Karragullen, Wungong

Bayswater-Swan View

6053-6058, 6069, 6084

Bayswater, Bassendean, Lockridge, Ashfield, Guildford, Henley Brook, West Swan, Middle Swan, Midland, Midvale, Stratton, Maida Vale, High Wycombe, Forrestfield, Greenmount, Swan View, Herne Hill, Helena Valley, Boya, Ellenbrook, Jane Brook, Bullsbrook

Beaconsfield-Yangebup

6162-6166

South Fremantle, Beaconsfield, Hamilton Hill, Hilton, Spearwood, Bibra Lake, Coolbellup, Yangebup, Coogee, Wattleup, Naval Base, Hope Valley, Henderson, Munster, Samson

City Beach-Carine

6015, 6018-6020, 6029

City Beach, Karrinyup, Doubleview, Scarborough, North Beach, Carine, Trigg, Sorrento, Marmion, Waterman, Innaloo, Gwelup

Applecross-Willagee

6149-6150, 6153-6156

Bullcreek, Murdoch, Bateman, Applecross, Ardross, Mt Pleasant, Brentwood, Alfred Cove, Attadale, Booragoon, Myaree, Willetton, Melville, Winthrop, Willagee

Mullaloo-Quinns Rock

6027-6028, 6030-6031, 6035, 6037, 6041-6044, 6065

Joondalup, Currambine, Kinross, Ocean Reef, Heathridge, Edgewater, Beldon, Mullaloo, Iluka, Quinns Rock, Merriwa, Mindarie, Clarkson, Neerabup, Carramar, Wanneroo, Wangara, Landsdale, Yanchep, Two Rocks, Guilderton, Seabird, Ledge Point, Lancelin

South Perth-Rossmoyne

6148, 6151-6152

Shelley, Rossmoyne, Ferndale, Riverton, South Perth, Kensington, Como, Manning, Karawara, Salter Point, Waterford

Subiaco-Mosman Park

6008-6012, 6014

Subiaco, Nedlands, Crawley, Dalkeith, Peppermint Grove, Shenton Park, Claremont, Swanbourne, Cottesloe, Mosman Park, Wembley, Floreat

Kalamunda-Mahogany Creek

6070-6074, 6076, 6081-6083

Kalamunda, Darlington, Glen Forest, Hovea, Mahogany Creek, Mundaring, Sawyers Valley, Walliston, Lesmurdie, Carmel, Bickley, Pickering Brook, Gooseberry Hill, Parkerville, Stoneville, Mount Helena, Gidgegannup