

WA DRUG ABUSE STRATEGY OFFICE & COMMUNICABLE DISEASE CONTROL BRANCH

Statistical Bulletin Number 14, July 2001

DISTRIBUTION OF NEEDLES & SYRINGES WESTERN AUSTRALIA, 1987 - 2000

Introduction

This Bulletin provides an analysis of trends in the number of needles and syringes (N&S) distributed in Western Australia (WA) to injecting drug users (IDUs) from 1987 to 2000. This data is an update of an earlier publication, *Statistical Bulletin Number 7* (March 1999) which covered the period up to 1997.

This analysis has been undertaken by the WA Drug Abuse Strategy Office in conjunction with the Communicable Disease Control Branch of the Health Department of WA (HDWA), who are responsible for the ongoing maintenance and development of the Needle and Syringe Database. The HDWA's Public Health Division has overall responsibility for the management of the State's N&S distribution program.

After the establishment of needle and syringe programs (NSPs) in this State in March 1987, the emphasis in the first phase was to improve access by IDUs to sterile injection equipment. There was also a strong emphasis in this phase on distributing educational materials to IDUs to increase knowledge of high risk practices associated with the spread of blood borne viruses (BBVs).

A key role was also played by the WA AIDS Council (WAAC) in preventing transmission of BBVs in IDUs through both fixed and mobile needle and syringe exchange programs (NSEPs). Though WAAC ceased to provide N&S from its office after it relocated to West Perth, it continued to operate a mobile NSEP.

A pilot and licensed mobile NSEP was operated in Bunbury from October 1998 to March 1999 by the South West Population Health Unit, with assistance from the WA Substances Users Association (WASUA). At the end of 2000 WAAC was the State's only licensed operator of a mobile NSEP. (It is to be noted that a mobile NSEP operated by WASUA commenced in Bunbury in June 2001.)

The second phase involved the assumption of a major role by many of the State's community pharmacies by selling 5

N&S in a Fitpack®, with a safe disposal container. Fitpacks included educational messages which were revised from time to time.

To foster the development of improved access to N&S, pharmacists initially received a subsidy so Fitpacks could be sold at a reduced cost. This subsidy was subsequently withdrawn in July 1992. Since then IDUs in this State have paid the full market price for Fitpacks in pharmacies, includes mark-ups for wholesalers and retailers. (The prices of Fitpacks vary from pharmacy to pharmacy.)

Fees are applied on a cost recovery basis if there is no exchange of N&S and other injecting equipment provided through fixed and mobile NSEPs. However, N&S are provided at no cost if exchanged. (Rural and regional hospitals, which operate after hours, provide N&S at no charge.)

continued on page 2

List of contents

Introduction.....	1
State Overview.....	2
Table 1: Annual totals of N&S	
by outlet, 1987-2000.....	2
Table 2: Quarterly totals of N&S	
by major outlets, 1987-2000.....	3
Regional Trends	4
Table 3: Annual totals for	
selected country areas, 1993-2000	5
Figures 2-12: Quarterly totals for	
selected country areas, 1993-2000	5-8
Table 4: Quarterly totals for	
selected country areas, 1993-2000	9
Perth Metropolitan Area.....	10
Table 5: N&S by outlet, 2000	10
Table 6: N&S by postcode, metro area, 2000	10
Figure 13: Rate ratio of N&S, metro area, 2000	11
Description of Postcode Localities	12

Written by Greg Swensen (July 2001)

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

This publication was jointly published by the WA Drug Abuse Strategy Office and the Communicable Disease Control Branch.

In the third phase other initiatives were implemented to improve the utilisation of sterile injection equipment by specific risk groups. This included the trial by WAAC of a vending machine from 1991 to 1994 at its former premises in Northbridge.

A vending machine was established in July 1994 in the grounds of the Central Drug Unit in East Perth. This operated until June 1999 when it was closed due to recurrent problems because of unreliability and vandalism.

Another initiative was the establishment of a mobile NSEP under the auspices of the Derbarl Yerrigan Medical Service (DYMS), formerly Perth Aboriginal Medical Service. This operated at a number of different sites in the metropolitan area, from July 1996 to June 1999.

The establishment of a fixed site NSEP commenced operation in November 1997, operated in Northbridge by the WA Substance Users Association (WASUA). This program provides a range of other services including peer education about BBVs and outreach services to IDUs in the inner city area and adjacent suburbs. This is the State's only licensed fixed site NSEP.

The range of products containing N&S and sterile injecting equipment now includes the FitpackPLUS® and SharpzKitz®.

State Overview

A total of 18,532,016 new N&S were distributed in this State from March 1987 to December 2000 (Table 1). Overall, about nine out of 10 of all N&S distributed were through chemists and NSEPs. The total number of N&S distributed by outlet were:

- pharmacies - 12,114,254 (65.4%);
- NSEP mobile (WAAC, DYMS) - 4,308,238 (23.2%);
- NSEP fixed (WASUA) - 1,006,675 (5.4%);
- hospital - 534,980 (2.9%);
- vending machine - 417,211 (2.2%);
- community health centre - 68,605 (0.4%);
- nursing post - 4,230 (0.1%); and
- other - 77,823 (0.4%).

continued on page 4

Table 1: Annual totals of needles and syringes distributed by all types of outlet, 1987-2000

Year	Chemist	NSEP mobile	NSEP fixed	Vending machine	Hospital	Community health centre	Nursing post	Other	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	1,000	200	-	845,190
1992	420,150	349,806	-	1,920	7,400	-	-	-	779,276
1993	817,025	372,234	-	50,491	3,570	750	30	500	1,244,600
1994	1,132,440	322,983	-	63,535	39,985	6,605	1,250	1,250	1,568,048
1995	1,057,575	369,671	-	61,030	35,940	3,000	500	2,270	1,529,986
1996	955,845	447,750	-	45,960	40,275	4,500	250	4,290	1,498,870
1997	1,239,355	477,507	1,801	83,340	80,180	3,800	-	8,005	1,893,988
1998	1,568,321	462,317	164,565	70,960	82,460	9,500	-	12,065	2,370,188
1999	1,849,047	478,956	320,820	37,590	96,465	15,700	1,500	17,201	2,817,279
2000	2,135,691	351,110	519,489	-	146,145	23,500	500	32,242	3,208,677
Total	12,114,254	4,308,238	1,006,675	417,211	534,980	68,605	4,230	77,823	18,532,016

Figure 1: Quarterly totals of needles and syringes distributed by major outlet, 1987-2000

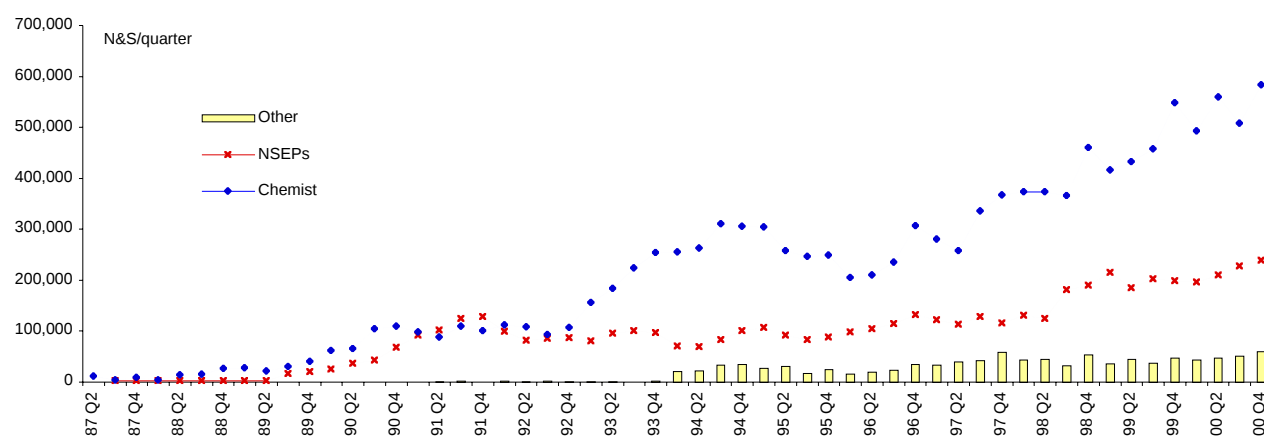


Table 2: Quarterly totals of needles and syringes distributed by major outlet, 1987-2000

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
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

From 1987 to 1991 the number of N&S increased each year reaching a total of 845,190 in 1991 (Table 1, page 2). In the following year there was a decrease of 8%, when a total of 779,276 N&S were distributed. From 1992 to 1994 the number of N&S doubled to a total of 1,580,318 in 1994.

From 1994 to 1996 there was a decline of 48,468 (3%) in the number of N&S distributed. Since 1996 there has been a period of steady growth in the number of N&S, with an increase of 1,676,827 distributed by the end of 2000, an overall increase of 209%.

The trends in the number of N&S distributed in this State each quarter show that since the March quarter 1992 an increasing number of N&S were sold through chemists (Figure 1, page 2; Table 2, page 3).

Trends in Regional Centres

An analysis was undertaken of the number of N&S distributed in the 11 major regional centres outside the Perth metropolitan area (Table 3, page 5). It should be noted that some of this data may be unreliable in some areas as in some areas N&S were not readily obtainable at all times. Therefore, IDUs may have purchased N&S from other regional centres where supplies were more available.

The number of N&S distributed over the eight year period, was as follows:

- Kalgoorlie-Boulder (postcodes 6430-6432) - 667,675;
- Mandurah (postcode 6210) - 352,613;
- Bunbury (postcode 6230) - 255,502;
- Geraldton (postcode 6530) - 220,137;
- Busselton-Margaret River (postcodes 6280-6285) - 115,037;
- Port Hedland (postcodes 6721-6722) - 99,405;
- Esperance (postcode 6450) - 59,195;
- Albany (postcode 6330) - 58,116;
- Carnarvon (postcode 6701) - 56,330;
- Broome (postcode 6725) - 47,990; and
- Karratha (postcode 6714) - 32,064.

From 1993-2000 the greatest number of N&S were distributed in the Kalgoorlie-Boulder area (postcodes 6430-6432). Over the period 1993 to 2000 there were differences in the rate of increase in the number of N&S distributed in each region as follows:

- 8 times in the Port Hedland area;
- 6 times in the Bunbury area;
- 5 times in the Albany and Esperance area;
- 4 times in the Busselton-Margaret River area;
- 3 times in the Kalgoorlie-Boulder, Mandurah, Broome and Karratha areas; and
- 2 times for the Geraldton and Carnarvon areas.

A more detailed analysis of trends in these regional centres is shown in Figures 2 to 12 (pages 5 to 8) and Table 4 (page 9). The recent jump in amphetamine abuse has probably contributed to some of the recent fluctuations in sales of N&S in a number of regional areas. There has been a 312% rise in the annual number of psychostimulant calls from 1997 to 2000 received by ADIS (see *Statistical Bulletin No. 13*) and a jump of 98% in the annual number of seizures of amphetamines by the WA Police (see *Statistical Bulletin No. 12*).

Kalgoorlie-Boulder

From 1993 to 1996 the number of N&S distributed each quarter steadily increased from just over 7,000 in the March quarter 1993 to about 22,500 in the December quarter 1996 (Figure 2, page 5). There was a marked increase to just over 27,500 N&S in the March quarter 1997. Since early 1997 to the end of 2000 the number of N&S distributed have remained relatively stable with about 25,000 distributed per quarter.

Mandurah

From 1993 to early 1997 about 4,000 to 5,000 N&S were distributed each quarter (Figure 3, page 5). The number of N&S distributed in Mandurah nearly doubled from the March quarter 1997, to just under 12,000 N&S in the June quarter 1997.

Distribution of N&S in this region remained relatively stable with about 12,500 distributed each quarter until the March quarter 2000. It can be seen there has been a period of marked growth over the year 2000, reaching 25,000 N&S by the December quarter.

Bunbury

From 1993 to early 1997 about 4,000 to 5,000 N&S were distributed (Figure 4, page 6). Since the June quarter 1997 there has been a steady growth in the quarterly total of N&S distributed, reaching just under 20,000 by the June quarter 2000. Further investigation is required to determine whether the drop that has occurred in the last two quarters of 2000 could be due to local drug market trends.

Geraldton

From 1993 to mid 1998 the number of N&S remained relatively constant with about 4,000 distributed per quarter (Figure 5, page 6). There has been a growth in the number of N&S distributed each quarter since the beginning of 1999 increasing to more than 16,000 by the December quarter 2000.

Busselton-Margaret River

There were low levels of N&S distributed from 1993 to mid 1996, with about 1,500 to 2,000 N&S per quarter (Figure 6, page 6). Over the two year period up to mid 1998 about 3,500 N&S were distributed each quarter. Since the December quarter 1998 about 5,000 N&S have been distributed each quarter.

Port Hedland

Relatively few N&S were distributed each quarter from 1993 until mid 1994, increasing to about 1,500 N&S up to the September quarter 1997 (Figure 7, page 7). A sharp jump occurred in the December quarter 1997, with a total of more than 7,000 N&S distributed. Over the 3 year period from 1998 to 2000 the number of N&S remained relatively stable, with about 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 8, page 7). However, since mid 1999 the number of N&S have increased markedly and reached more than 6,500 in the September quarter 2000.

continued on page 9

Table 3: Annual totals of needles and syringes, selected country areas, 1993-2000

Locality	Postcode	1993	1994	1995	1996	1997	1998	1999	2000
Kalgoorlie-Boulder	6430-6432	32,375	77,590	59,310	64,710	108,415	104,630	102,109	118,536
Geraldton	6530	21,830	30,330	18,745	19,635	18,220	23,498	35,625	52,254
Mandurah	6210	22,215	29,800	32,675	34,095	44,285	53,905	62,900	72,738
Busseton-Margaret River	6280-6285	4,555	10,270	8,820	10,020	15,025	22,920	23,229	20,198
Bunbury	6230	7,085	25,610	18,855	21,450	31,840	45,220	61,769	43,673
Carnarvon	6701	3,700	5,500	2,940	6,080	7,020	11,006	11,139	8,945
Broome	6725	3,270	4,560	3,545	3,740	4,220	6,400	10,540	11,715
Esperance	6450	2,955	3,280	4,950	5,010	6,865	10,915	10,298	14,922
Albany	6330	4,625	7,085	3,900	3,120	2,930	4,719	7,700	24,037
Karratha	6714	1,680	3,140	3,510	4,130	2,110	3,780	7,864	5,850
Port Hedland	6721-6722	2,360	4,970	13,615	12,525	13,105	17,375	15,800	19,655

Figure 2: Quarterly totals of needles and syringes distributed, Kalgoorlie-Boulder postcode area, 1993-2000

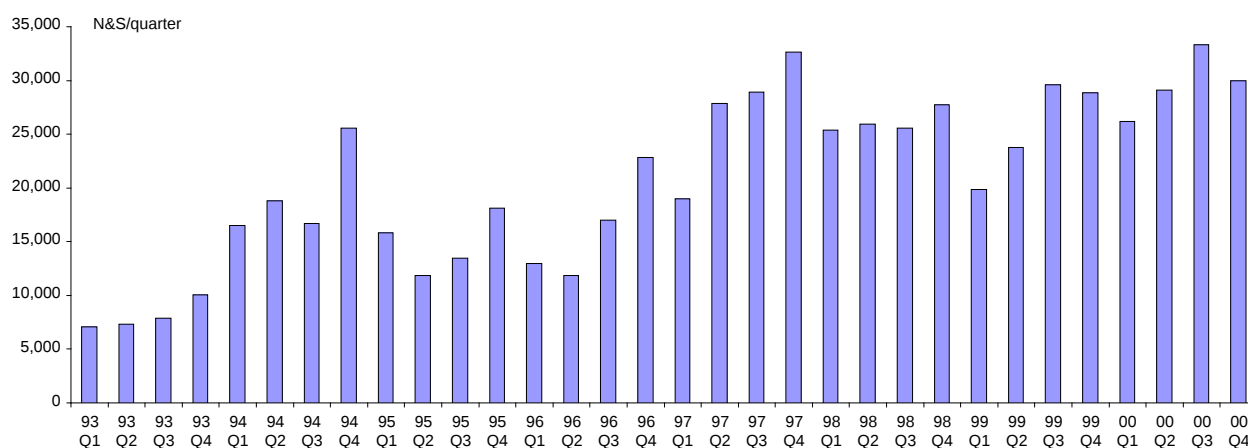


Figure 3: Quarterly totals of needles and syringes distributed, Mandurah postcode area, 1993-2000

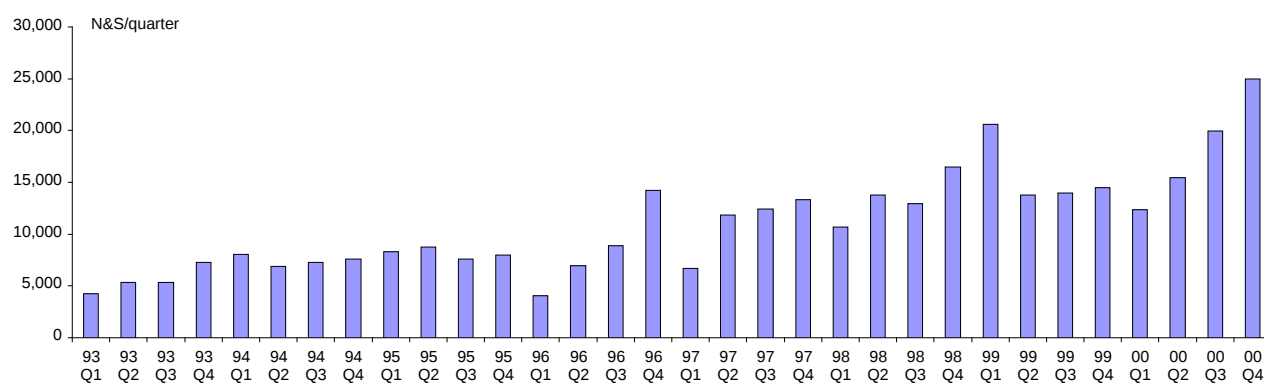


Figure 4: Quarterly totals of needles and syringes distributed, Bunbury postcode area, 1993-2000

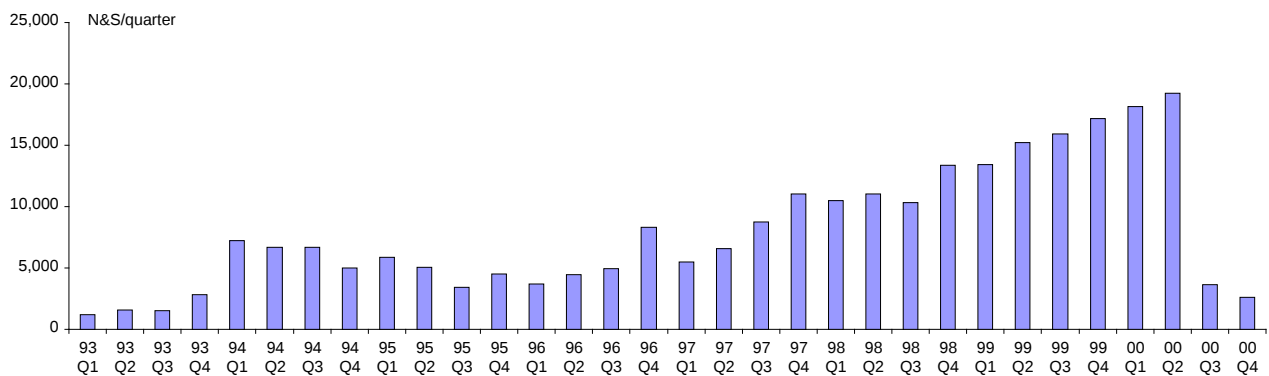


Figure 5: Quarterly totals of needles and syringes distributed, Geraldton postcode area, 1993-2000

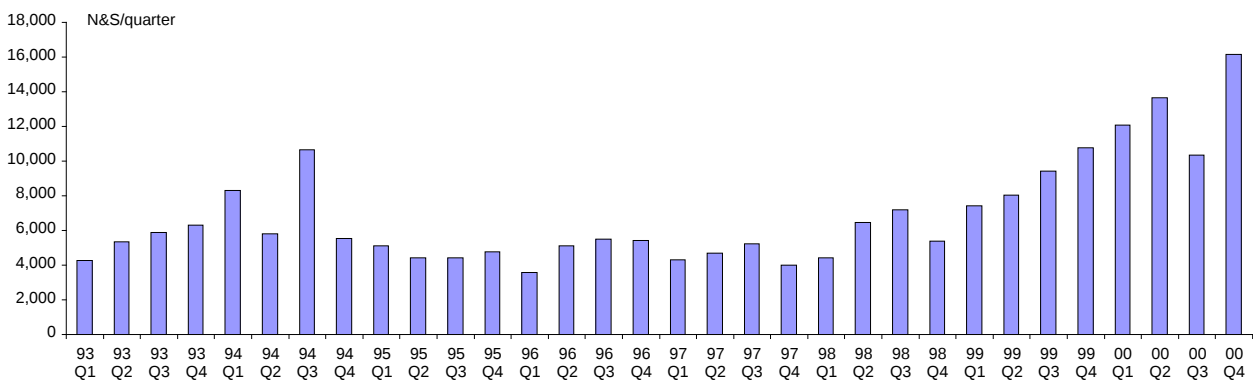


Figure 6: Quarterly totals of needles and syringes distributed, Busselton-Margaret River postcode area, 1993-2000

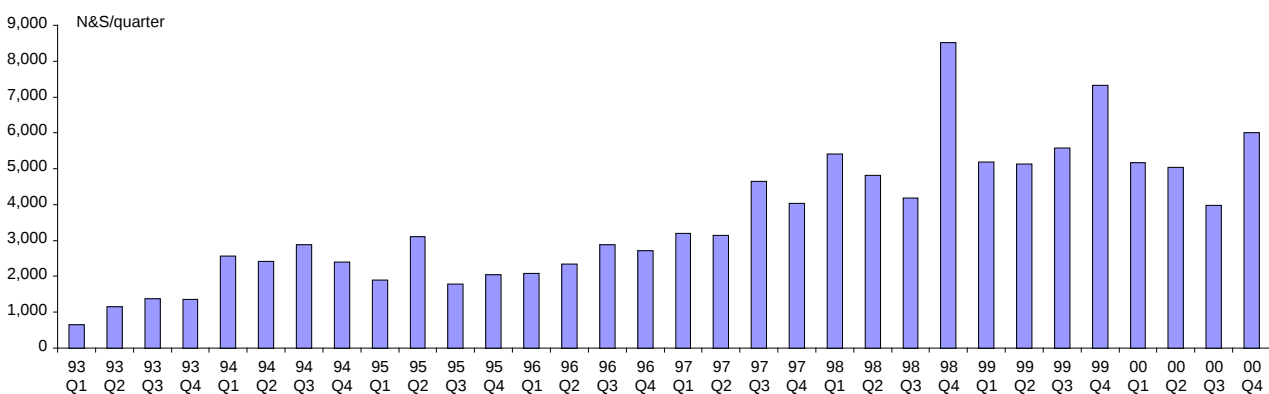


Figure 7: Quarterly totals of needles and syringes distributed, Port Hedland postcode area, 1993-2000

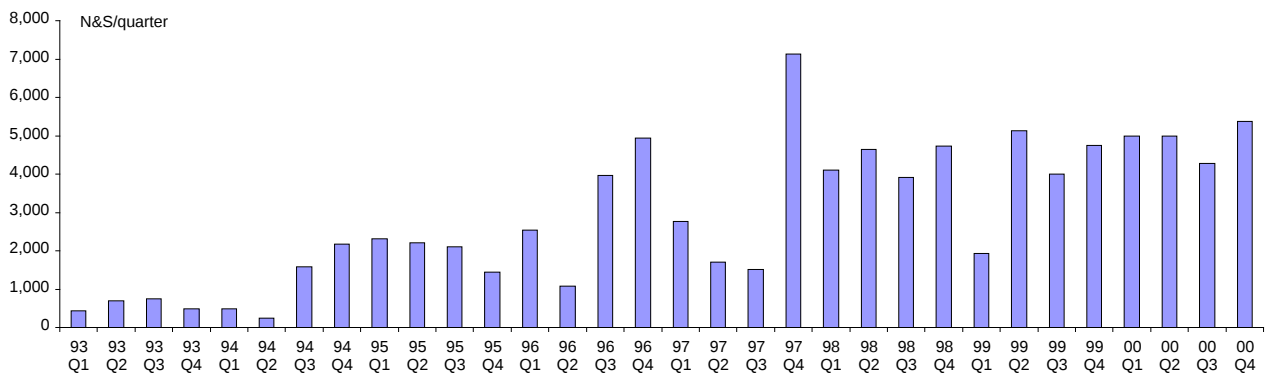


Figure 8: Quarterly totals of needles and syringes distributed, Albany postcode area, 1993-2000

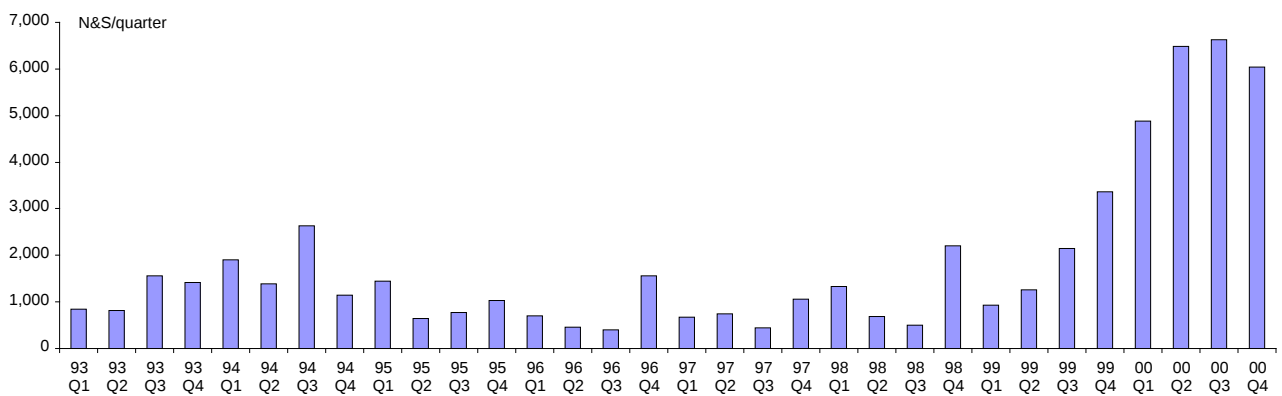


Figure 9: Quarterly totals of needles and syringes distributed, Carnarvon postcode area, 1993-2000

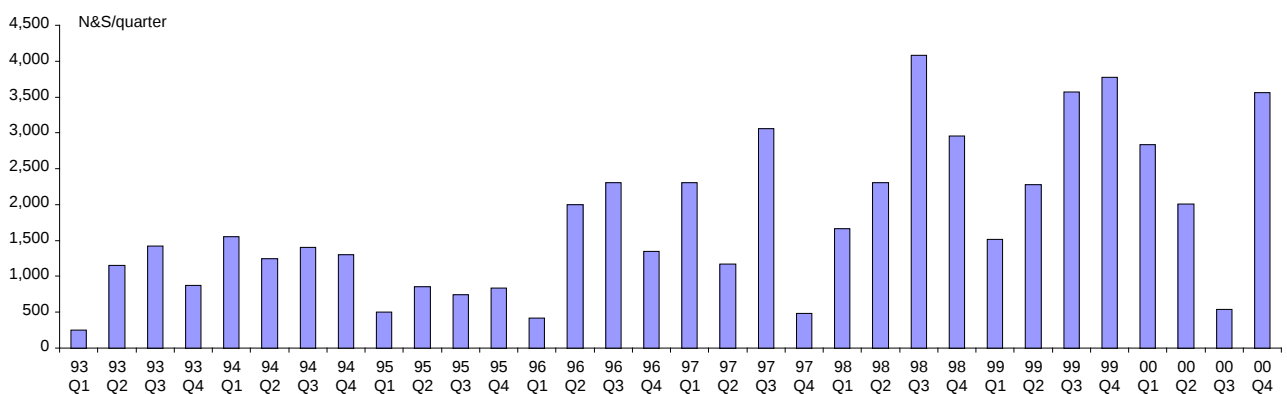


Figure 10: Quarterly totals of needles and syringes distributed, Broome postcode area, 1993-2000

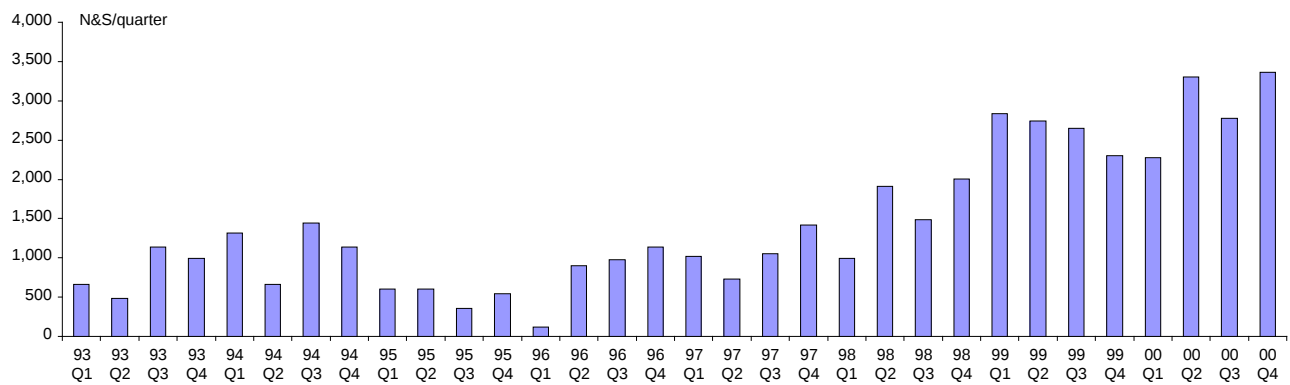


Figure 11: Quarterly totals of needles and syringes distributed, Esperance postcode area, 1993-2000

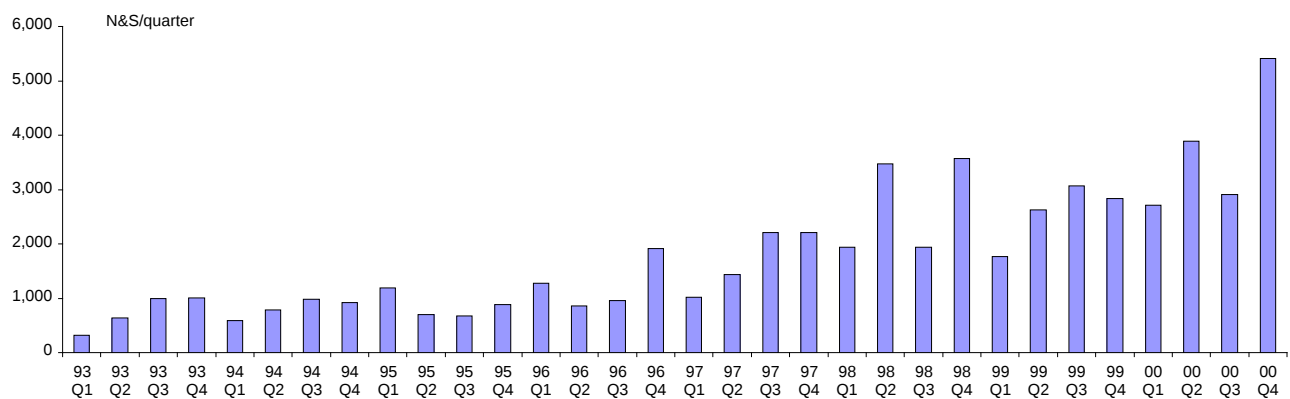
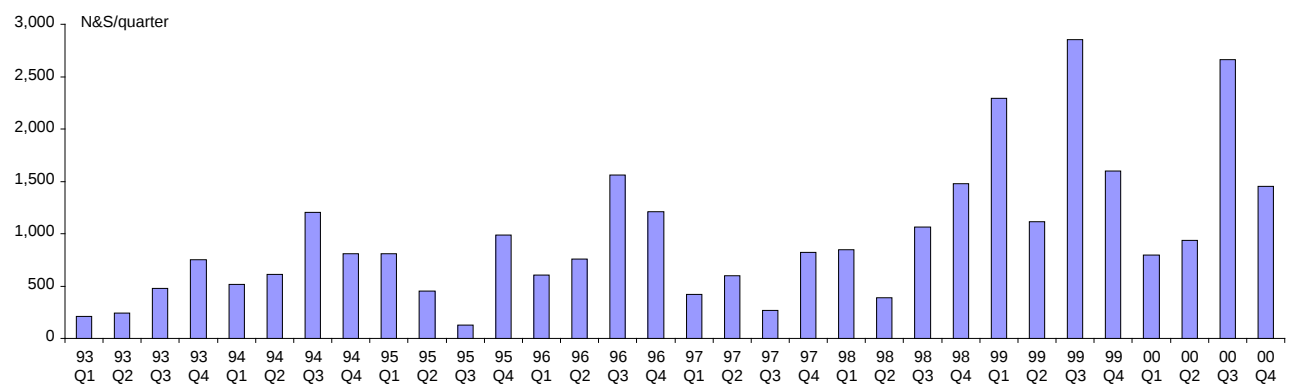


Figure 12: Quarterly totals of needles and syringes distributed, Karratha postcode area, 1993-2000



Carnarvon

Small numbers of N&S were distributed from 1993 to early 1996, then increased from mid 1996. Overall, between 1993 and 2000 there has been a fluctuating pattern of the number of N&S distributed, which may be related to seasonal factors affecting the size of the injecting drug using population (Figure 9, page 7).

Broome

From 1993 to mid 1997 few N&S were distributed, then increased (Figure 10, page 8). From the September quarter 1997 to the September quarter 1998, about 1,000 N&S were

distributed. N&S then increased to about 2,500 per quarter and by the December quarter 2000 reached just under 3,500.

Esperance

Very few N&S were distributed from 1993 to mid 1997, then increased slightly (Figure 11, page 8). About 2,700 were distributed per quarter between mid 1999 and the September quarter 2000, reaching just under 5,500 in the December quarter 2000.

Karratha

Overall, there has been a fluctuating pattern of N&S distributed (Figure 12, page 8). Few N&S were distributed up to mid 1998, then increased moderately, with peaks occurring in the September quarters 1999 and 2000.

Table 4: Quarterly totals of needles and syringes, selected country areas, 1993-2000

	Kalgoorlie- Boulder 6430-6432	Mandurah 6210	Bunbury 6230	Geraldton 6530	Busselton- Margaret River 6280-6285	Port Hedland 6721-6722	Albany 6330	Carnarvon 6701	Broome 6725	Esperance 6450	Karratha 6714
1993											
Qtr 1	7,100	4,225	1,200	4,265	660	440	840	250	660	320	210
Qtr 2	7,345	5,375	1,555	5,365	1,155	695	810	1,150	480	635	240
Qtr 3	7,885	5,370	1,530	5,900	1,375	745	1,555	1,425	1,140	995	480
Qtr 4	10,045	7,245	2,800	6,300	1,365	480	1,420	875	990	1,005	750
Total	32,375	22,215	7,085	21,830	4,555	2,360	4,625	3,700	3,270	2,955	1,680
1994											
Qtr 1	16,500	8,025	7,230	8,310	2,570	480	1,910	1,550	1,320	590	515
Qtr 2	18,790	6,915	6,695	5,815	2,420	240	1,390	1,250	660	780	610
Qtr 3	16,720	7,285	6,705	10,665	2,890	1,580	2,635	1,400	1,440	985	1,205
Qtr 4	25,580	7,575	4,980	5,540	2,390	2,170	1,150	1,300	1,140	925	810
Total	77,590	29,800	25,610	30,330	10,270	4,470	7,085	5,500	4,560	3,280	3,140
1995											
Qtr 1	15,810	8,320	5,875	5,110	1,890	2,310	1,450	500	600	1,190	810
Qtr 2	11,870	8,775	5,055	4,420	3,100	2,205	645	860	600	700	450
Qtr 3	13,485	7,570	3,425	4,430	1,790	2,100	780	740	360	680	126
Qtr 4	18,145	8,010	4,500	4,785	2,040	1,440	1,025	840	540	880	990
Total	59,310	32,675	18,855	18,745	8,820	8,055	3,900	2,940	2,100	3,450	2,376
1996											
Qtr 1	12,995	4,050	3,715	3,595	2,080	2,540	705	420	120	1,270	605
Qtr 2	11,880	6,950	4,440	5,110	2,335	1,070	455	2,000	900	860	755
Qtr 3	16,985	8,860	4,970	5,515	2,885	3,970	395	2,310	980	960	1,560
Qtr 4	22,850	14,235	8,325	5,415	2,720	4,945	1,565	1,350	1,140	1,920	1,210
Total	64,710	34,095	21,450	19,635	10,020	12,525	3,120	6,080	3,140	5,010	4,130
1997											
Qtr 1	18,970	6,685	5,480	4,290	3,200	2,760	670	2,310	1,020	1,020	420
Qtr 2	27,850	11,845	6,590	4,695	3,135	1,705	745	1,170	730	1,430	600
Qtr 3	28,925	12,400	8,745	5,225	4,655	1,510	450	3,060	1,050	2,205	270
Qtr 4	32,670	13,355	11,025	4,010	4,035	7,130	1,065	480	1,420	2,210	820
Total	108,415	44,285	31,840	18,220	15,025	13,105	2,930	7,020	4,220	6,865	2,110
1998											
Qtr 1	25,360	10,700	10,485	4,440	5,410	4,100	1,330	1,660	990	1,940	850
Qtr 2	25,960	13,785	11,025	6,470	4,815	4,640	685	2,310	1,915	3,470	390
Qtr 3	25,560	12,940	10,350	7,205	4,175	3,910	500	4,080	1,490	1,935	1,065
Qtr 4	27,750	16,480	13,360	5,383	8,520	4,725	2,204	2,956	2,005	3,570	1,475
Total	104,630	53,905	45,220	23,498	22,920	17,375	4,719	11,006	6,400	10,915	3,780
1999											
Qtr 1	19,846	20,630	13,442	7,421	5,189	1,925	929	1,517	2,840	1,769	2,295
Qtr 2	23,793	13,799	15,244	8,038	5,138	5,125	1,260	2,278	2,745	2,624	1,116
Qtr 3	29,585	13,996	15,921	9,412	5,570	4,000	2,153	3,572	2,650	3,065	2,852
Qtr 4	28,885	14,475	17,162	10,754	7,332	4,750	3,358	3,772	2,305	2,840	1,601
Total	102,109	62,900	61,769	35,625	23,229	15,800	7,700	11,139	10,540	10,298	7,864
2000											
Qtr 1	26,178	12,356	18,167	12,077	5,172	5,000	4,887	2,836	2,280	2,713	798
Qtr 2	29,074	15,470	19,256	13,658	5,044	5,000	6,483	2,011	3,300	3,887	938
Qtr 3	33,311	19,957	3,641	10,349	3,976	4,280	6,621	536	2,775	2,910	2,660
Qtr 4	29,973	24,955	2,609	16,170	6,006	5,375	6,046	3,562	3,360	5,412	1,454
Total	118,536	72,738	43,673	52,254	20,198	19,655	24,037	8,945	11,715	14,922	5,850

Perth Metropolitan Area

Introduction

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.

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.

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 on page 12.

Table 5: Total N&S by type of outlet, metropolitan and country, 2000

Type of outlet	Total distributed
Metropolitan area	
Chemist	1,840,327
Needle & syringe exchange program (mobile)	333,668
Needle & syringe exchange program (fixed)	519,489
Hospital	22,300
Other	1,500
Metropolitan sub total	2,717,284
Country areas	491,393
State total	3,208,677

Table 6: Distribution of N&S by postcode locality, Perth metropolitan area, 2000

Locality	Postcodes	N&S	Population (1996 ABS)	Rate per 10,000	Rate ratio
Perth Inner City	6000, 6003-6005	655,568	14,281		
Mount Lawley-Maylands	6050-6052	207,986	31,581	65,858	2.95
Bicton-Fremantle	6157-6161	121,940	26,692	45,684	2.05
Victoria Park-Redcliffe	6100-6106	218,819	59,367	36,859	1.65
Leederville-Tuart Hill	6006-6007, 6016-6017, 6060	137,213	41,952	32,707	1.47
Dianella-Ballajura	6061-6064, 6066-6068	290,799	134,649	21,597	0.97
Cannington-Gosnells	6107-6110, 6147	186,397	96,401	19,336	0.87
Kwinana-Safety Bay	6167-6172	138,129	72,972	18,929	0.85
Balcatta-Craigie	6021-6026	174,804	102,946	16,980	0.76
Kelmscott-Byford	6111-6112, 6201	80,234	54,145	14,818	0.66
Bayswater-Swan View	6053-6058, 6069, 6084	123,538	98,314	12,566	0.56
Beaconsfield-Yangebup	6162-6166	92,228	78,380	11,767	0.53
City Beach-Carine	6015, 6018-6020, 6029	81,308	71,409	11,386	0.51
Applecross-Willagee	6149-6150, 6153-6156	79,554	95,297	8,348	0.37
Mullaloo-Quinns Rock	6027-6028, 6030-6031, 6035,				
	6037, 6041-6044, 6065	49,190	81,694	6,021	0.27
South Perth-Rossmoyne	6148, 6151-6152	29,999	50,027	5,997	0.27
Subiaco-Mosman Park	6008-6012, 6014	36,956	76,072	4,858	0.22
Kalamunda-Mahogany Creek	6070-6074, 6076, 6081-6083	12,622	28,339	4,454	0.20
Total metro		2,717,284	1,214,518	22,373	1.00

Overview

In the year 2000 a total of 3,208,677 N&S were distributed throughout the whole State, of which 2,717,284 (84.7%) were distributed within the Perth metropolitan area (Table 5).

Just over two thirds (67.7%) of the N&S distributed in the Perth metropolitan area were through chemists, with 519,489 (19.1%) and 333,668 (12.3%) distributed through the fixed NSEP and the mobile NSEP respectively.

In the year 2000 a total of 655,568 N&S were distributed in the Perth inner city area, of which 104,832 (16.0%) were through the van and 519,489 (79.2%) were through the fixed site NSEP. As it is likely many of these N&S would be used by people who lived in areas outside the Northbridge area, a rate has not been calculated for this locality (Table 6, page 10).

Excluding the Perth inner city area, there were five localities in the Perth metropolitan area where more than a total of 150,000 N&S were distributed in the year 2000 as follows:

- Dianella-Ballajura (290,799);
- Victoria Park-Redcliffe area (218,819);
- Mount Lawley-Maylands (207,986),
- Cannington-Gosnells (186,397); and
- Balcatta-Craigie (174,804).

There were four localities where between 100,000 and 150,000 N&S were distributed in the year 2000 as follows:

- Kwinana-Safety Bay (138,129);
- Leederville-Tuart Hill (137,213);
- Bayswater-Swan View (123,538); and
- Bicton-Fremantle (121,940).

To account for variations in the size of the population, crude rates have been calculated to compare each of the 18 metropolitan localities. The most recent postcode population data is from the 1996 Census.

It should be noted that since the 1996 Census there has been growth in the population in some of the postcode districts, especially in outlying northern and southern areas of the Perth metropolitan area.

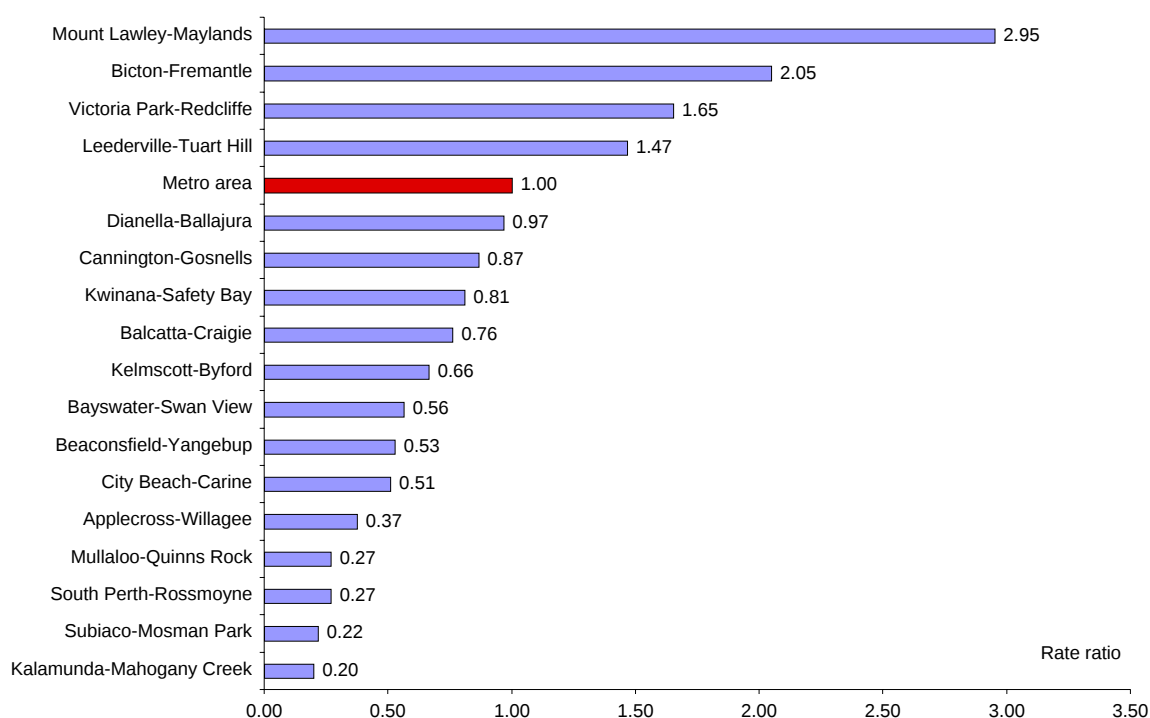
There were two postcode districts in the southern fringe of the metropolitan area in which a total of 1,390 N&S were distributed. These and adjacent areas have been excluded from the metropolitan analysis as people living in these areas are much closer to the Mandurah regional centre than other regional areas in the southern metropolitan region. The exclusion of these areas has reduced the total population of the Perth metropolitan area which has been used as the denominator to calculate rates.

The rates of N&S per 10,000 population distributed by locality is contained in Table 6 (page 10). This shows that the highest rate of 65,858 N&S per 10,000 population occurred in the Mount Lawley-Maylands locality. Some of the high rates for this locality could be due to the closure of the vending machine in mid 1999. (In June 1999 just over 7,000 N&S were distributed through the vending machine. Prior to its closure an average of 3,000 N&S per month were distributed by the Mount Lawley based 24 hour pharmacy, increasing to an average of 13,250 per month in the year 2000.)

The ranked rate ratios of localities compared to the metropolitan rate are shown in Figure 13 and identify localities in relation to the metropolitan rate (22,373 N&S per 10,000 population).

continued on page 12

Figure 13: Rate ratio of distribution of N&S, Perth metropolitan area by postcode locality, 2000



There were four localities *above* the metropolitan rate as follows:

- Mount Lawley-Maylands locality (2.95 times higher);
- Bicton-Fremantle locality (2.05 times higher);
- Victoria Park-Redcliffe locality (1.65 times higher); and
- Leederville-Tuart Hill locality (1.47 times higher).

There were four localities which were just *below* the metropolitan rate as follows:

- Dianella-Ballajura (0.97 times lower);
- Cannington-Gosnells (0.87 times lower);
- Kwinana-Safety Bay (0.81 times lower); and
- Balcatta-Craigie (0.76 times lower).

Description of 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, Bedforddale, 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