



Distribution of Needles & Syringes Western Australia, 1987-2004

A total of 32,615,229 sterile needles and syringes were distributed from March 1987 to December 2004, of which 59.5% were sold through retail pharmacies and about one third distributed through needle and syringe exchange programs. There was a mean metropolitan rate of 20,905 needles and syringes per 10,000 population for all of the 19 localities in the Perth metropolitan area. The highest mean annual rate was in the Mount Lawley-Maylands area, with a rate of 50,885 needles and syringes per 10,000 population. A ranking of the 19 localities found rates well above the mean metropolitan rate for the localities of Mount Lawley-Maylands (2.43 times higher), Bickton-Fremantle (2.1 times higher), Leederville-Tuart Hill (2.08 times higher) and Victoria Park-Redcliffe (1.49 times higher). There was a mean country rate of 10,551 N&S per 10,000 population, with rates well above the mean country rate for Kalgoorlie-Boulder (3.58 times higher), Carnarvon (2.38 times higher), Karratha (2.30 times higher), Bunbury-Eaton (2.01 times higher) and Geraldton (1.94 times higher).

Summary

In Western Australia (WA) the majority of needles and syringes (N&S) sold to injecting drug users (IDUs) are Fit-pack products which incorporate a self locking mechanism for the retention of used N&S for safe disposal.

The remaining third of N&S are distributed through the mobile and fixed needle and syringe exchange programs (NSEPs) which have rates of 95% of return of used injection equipment for both the WA AIDS Council (WAAC) and the WA Substance Users' Association (WASUA). (See Table 1, page 2.)

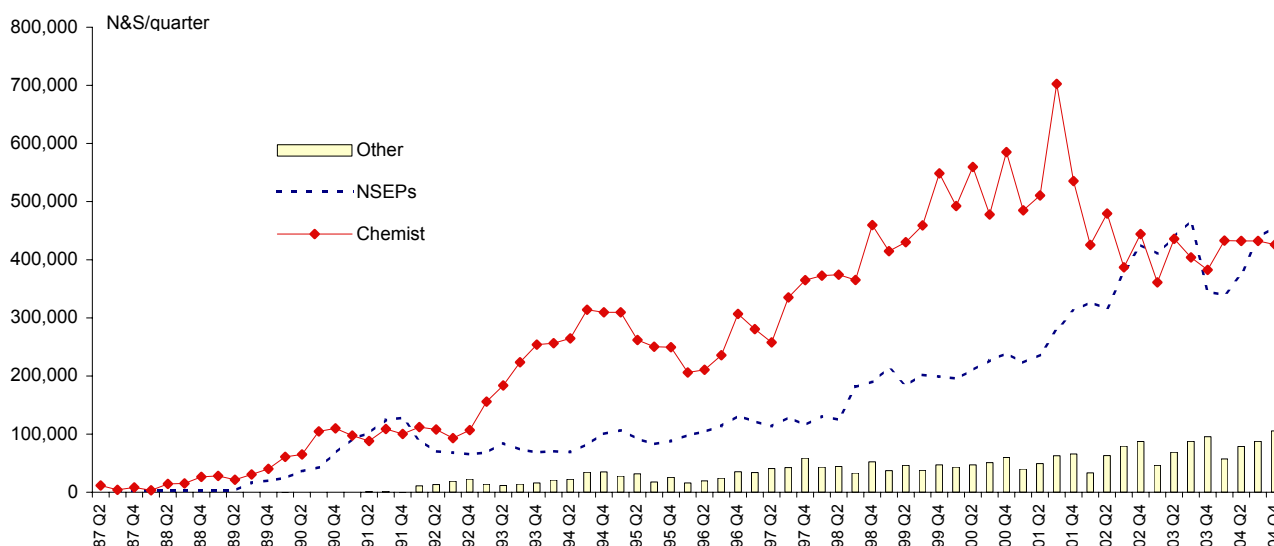
From 1997 to 2004 there was a steady increase in the annual number of N&S distributed, reaching a total of 3.66 million in 2004 - from a mean of 195 per day in 1998 to a mean of 10,022 per day in 2004 (Table 2, page 4).

A total of 32,615,229 sterile N&S were distributed in WA from March 1987 to December 2004, six out of ten (59.5%) were sold through chemists and about one third distributed through NSEPs (Table 2, page 4).

Of the 10,713,619 N&S distributed through mobile and fixed NSEPs, 60.9% were distributed through mobile NSEPs and 39.1% through NSEPs operating at fixed sites. There were few N&S distributed through hospitals

Written by Greg Swensen (July 2006)

Figure 1
Quarterly totals of needles and syringes distributed by type of outlet, WA, 1987-2004



(3.2%), other outlets such as community health centres, nursing posts, community based organisations (eg Magenta formerly known as Phoenix) and public health units and through vending machines (1.7%).

From the March quarter 1987 to the end of 1992 similar numbers of N&S were distributed through both chemists and NSEPs. From 1993 there was an expansion in the N&S program based at chemists, which reached 702,553 in the September quarter 2001 and then fell to 360,998 in the March quarter 2003. Since the June quarter 2003 distribution of N&S through chemists has stabilised at about 430,000 per quarter.

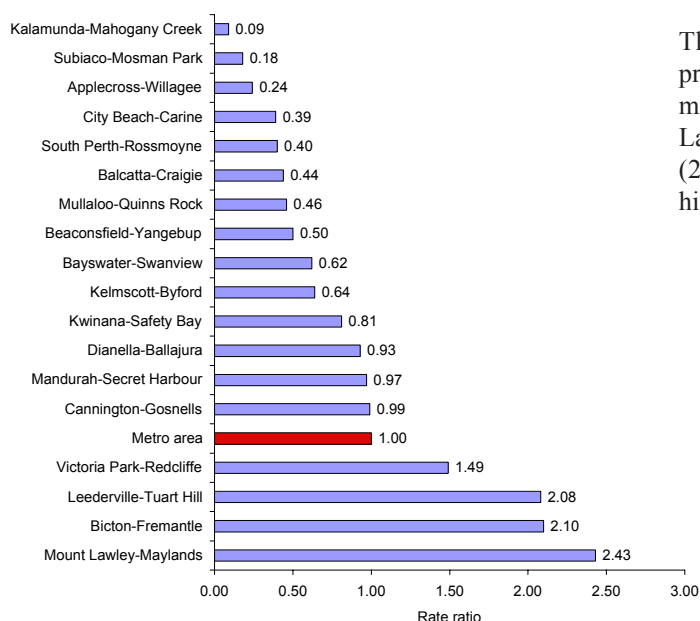
The number of N&S distributed through NSEPs steadily increased from mid 1998 to a peak of 467,255 in the September quarter 2003 and since mid 2004 more N&S have been distributed through NSEPs than through chemists. (See Figure 1, page 1.)

Table 1
Annual return rates (%) of used needles and syringes at NSEPs, WA, 2001/2002 - 2003/2004

	WAAC	WASUA
2001/2002	94	96
2002/2003	95	93
2003/2004	94	98

Source: WA AIDS Council and
WA Substance Users' Association

Figure 2
Mean rate ratios of distribution of needles & syringes, metropolitan localities, 2000-2004



Metropolitan Area

A study of metropolitan data for the five year period from 2000 to 2004 identifies variations in the metropolitan area on the rate of sales of N&S in 19 different localities.

In the Perth metropolitan area there were three localities which had a mean of more than 200,000 N&S distributed per year - Dianella-Ballajura (284,997), Cannington-Gosnells (216,263) and Victoria Park-Redcliffe (205,101). *(The Perth inner city area has been excluded as within this locality there are a number of mobile NSEP sites which distribute high volumes of N&S.)*

There were two localities in which there was a mean of between 150,000 and less than 200,000 N&S distributed per year - Mount Lawley-Maylands (176,281) and Kwinana-Safety Bay (151,472).

There were five localities in which there was a mean of between 100,000 and less than 150,000 N&S distributed per year - Bayswater-Swan View (149,402), Bicton-Fremantle (128,223), Leederville-Tuart Hill (126,708), Mandurah-Secret Harbour (120,068) and Mullaloo-Quinns Rock (108,196).

This study also found there was a mean metropolitan rate of 20,905 N&S per 10,000 population for all of the 19 localities in the Perth metropolitan area.

Excluding the Perth inner city area, the highest mean annual rate was in the Mount Lawley-Maylands area, with a rate of 50,885 N&S per 10,000 population. (It is possible that this rate could be inflated because of the location of a 24 hour pharmacy in Mount Lawley which may have been accessed by persons living outside of this locality.)

The ranking of mean rate ratios of the 19 localities presented in Figure 2 shows rates well above the mean metropolitan rate were reported for the localities of Mount Lawley-Maylands (2.43 times higher), Bicton-Fremantle (2.1 times higher), Leederville-Tuart Hill (2.08 times higher) and Victoria Park-Redcliffe (1.49 times higher).

Regional Centres

The mean country rate was 10,551 N&S per 10,000 population, which was about half the mean metropolitan rate of 20,905.

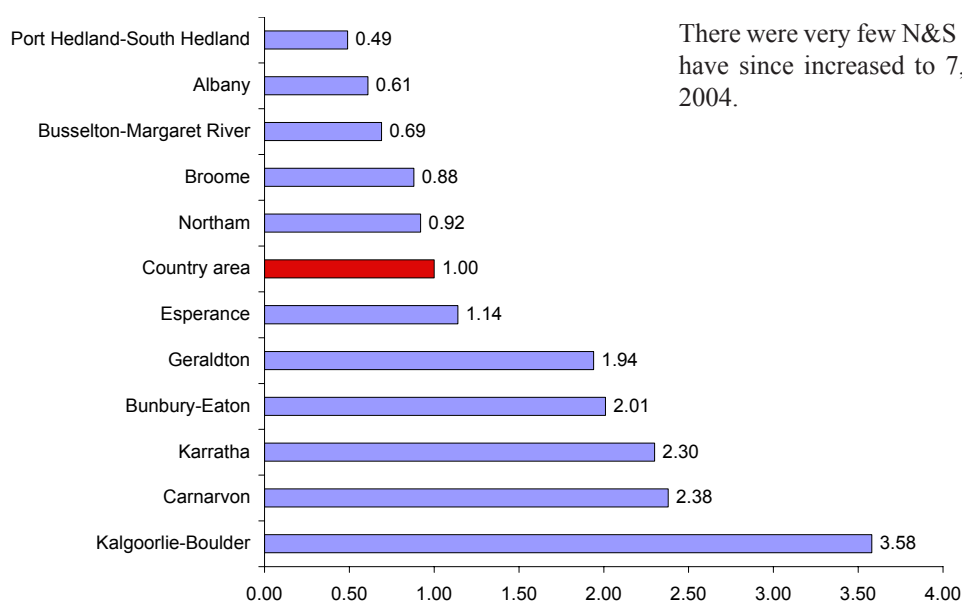
Annual N&S data from 1993 to 2004 for 11 major regional centres identifies trends and patterns in the distribution of N&S outside the Perth metropolitan area, with the highest mean annual rate in Kalgoorlie-Boulder (37,763). There were four other regional centres with rates above 20,000 N&S - Carnarvon (25,065), Karratha (24,251), Bunbury-Eaton (21,195) and Geraldton (20,422).

There were marked quarterly fluctuations in Broome, Port Hedland, Karratha and Carnarvon due to supplies being ordered in large quantities to cover demand during the holiday season when availability of stock is restricted. In a number of centres such as Karratha the sharp quarterly jumps in N&S distribution is due to the centralisation of ordering of supplies through Public Health Units.

In some regions such as the Kimberley, the N&S distribution figures for the main regional centre include distribution to other outlets located outside of the centre due to the centralisation of ordering of supplies by Public Health Units.

The ranking of mean rate ratios for the 11 regional centres over the five year period shown in Figure 3 shows rates well above the mean country rate for Kalgoorlie-Boulder (3.58 times higher), Carnarvon (2.38 times higher), Karratha (2.30 times higher), Bunbury-Eaton (2.01 times higher) and Geraldton (1.94 times higher).

Figure 3
Mean rate ratios of distribution of needles & syringes, selected country localities, 2000-2004



Bunbury

From 1993 to the June quarter 2000 the number of N&S steadily increased to 18,820 in the June quarter 2000 and then dropped to 3,590 in the September 2000. Since 2001 the number of N&S has steadily increased and reached 39,664 in the December quarter 2004.

Factors that have contributed to the recent growth in utilisation of N&S in the Bunbury area has been the commencement of a mobile NSEP operated by WASUA in 2001. (By 2003 just over half of all N&S in Bunbury were provided by WASUA.) Also, since 2002 N&S have been provided on an after hours basis from the Bunbury Regional Hospital.

Busselton-Margaret River

There has been a steady increase in the number of N&S distributed from 1993 reaching 10,076 in the December quarter 2004.

Albany

Relatively few N&S were distributed from 1993 to early 1999, peaked in mid 2001, declined throughout 2002 and have since increased to 7,255 in the December quarter 2004.

Kalgoorlie-Boulder

There have been increasing numbers of N&S distributed throughout the period from 1993 to the December quarter 2004. Since 2001 a N&S vending machine has operated on an after hours basis at the Kalgoorlie Regional Hospital, which has reduced the demands for N&S during the day at the hospital's Emergency Department.

In conjunction with the reduced role of the hospital as a source of N&S demand has grown for N&S provided at no cost through the Public Health Unit during the day.

Esperance

There were very few N&S distributed up to mid 1997 and have since increased to 7,578 in the December quarter 2004.

Geraldton

From 1993 to mid 1998 the number of N&S remained relatively constant and then increased to 24,249 in the December quarter 2004. As the Midwest Public Health Unit commenced distribution of N&S in the March quarter 1999 N&S data from the beginning of 1999 includes figures for outlets outside the main regional centre. The Geraldton Regional Hospital also commenced distribution of N&S in the June quarter 2003.

Carnarvon

Few N&S were distributed up to late 1997 and then there has been a trend of steady increase up to the December quarter 2004 (11,000). The short term peaks in N&S distribution since 2001 are believed to be related to ordering to cover holiday periods of restricted availability of stock.

Port Hedland

From 1993 up to the December quarter 1999 (4,750) the number of N&S distributed steadily increased. From late 1999 to mid 2002 the number of N&S declined and have since increased slightly to 4,400 in the December quarter 2004.

Karratha

Very few N&S were distributed up to the end of 1999 and since the beginning of 2000 the number of N&S has fluctuated markedly, with an underlying pattern of increasing growth.

Broome

Relatively few N&S were distributed up to early 1998 and then gradually increased up to early 2001. There has been a gradual decline since a peak in late 2001 with 995 in the December quarter 2004.

Table 2
Annual totals of needles and syringes distributed by type of outlet, WA, 1987-2004

	Chemist	NSEPs		Hospital	Vending machine	Other	Total
		Mobile	Fixed site				
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	-	2,560	2,385	1,200	845,190
1992	420,200	293,236	-	7,400	58,490	-	779,326
1993	817,025	294,423	-	3,570	50,491	1,280	1,166,789
1994	1,144,710	322,983	-	39,985	63,535	9,105	1,580,318
1995	1,071,570	369,671	-	35,940	61,030	5,770	1,543,981
1996	959,105	442,365	-	40,275	45,960	9,020	1,502,110
1997	1,238,540	466,903	1,801	80,180	83,340	12,225	1,893,593
1998	1,571,586	455,046	164,565	82,460	70,960	19,815	2,371,703
1999	1,852,518	472,018	320,820	96,465	37,590	34,225	2,819,254
2000	2,114,994	350,610	519,489	147,145	-	53,830	3,186,068
2001	2,233,492	426,795	608,424	119,235	24,035	74,555	3,502,138
2002	1,735,980	608,732	793,632	107,525	23,680	131,725	3,445,808
2003	1,583,466	691,307	900,259	129,665	24,155	144,016	3,542,432
2004	1,723,959	649,037	885,599	167,583	21,215	139,950	3,660,605
Total	19,405,950	6,519,030	4,194,589	1,059,988	566,866	636,966	32,615,229

Note: 'Other' includes community health centres, nursing posts, community based organisations (eg Magenta formerly known as Phoenix) & public health units (PHU). 'Mobile NSEP' includes Derby Yerrigan which operated a mobile NSEP from 1996 to 1998 and since 2001 includes the service provided by WASUA in Bunbury (no other mobile NSEPs operated in 2000). 'Vending machine' refers to vending machine which operated in East Perth up to 1999 and then a new service commenced in Kalgoorlie in 2001. Recent increases in 'other outlet' reflects increased distribution of Fitpacks by PHUs to hospitals within their regions.

Source: All this data has been provided by the Sexual Health and Blood Borne Virus Program, Communicable Disease Control Directorate, Department of Health.

Distribution of Needles & Syringes Western Australia, 1987-2004 Data Tables & Figures: Whole State

Table A1-1
Quarterly totals of needles and syringes distributed by type of outlet
1987-1995

		NSEPs	Chemist	Other	Total
1987	Qtr 2	-	11,670	-	11,670
	Qtr 3	3,000	4,080	-	7,080
	Qtr 4	3,000	8,240	-	11,240
1988	Qtr 1	3,000	3,430	-	6,430
	Qtr 2	3,000	14,220	-	17,220
	Qtr 3	3,000	15,190	-	18,190
	Qtr 4	3,000	26,540	-	29,540
1989	Qtr 1	3,000	28,210	-	31,210
	Qtr 2	3,000	21,370	-	24,370
	Qtr 3	16,587	30,500	-	47,087
	Qtr 4	20,061	40,180	-	60,241
1990	Qtr 1	24,610	60,975	250	85,835
	Qtr 2	36,117	64,930	-	101,047
	Qtr 3	42,894	104,700	-	147,594
	Qtr 4	67,410	109,750	-	177,160
1991	Qtr 1	91,945	97,530	-	189,475
	Qtr 2	101,970	88,210	1,400	191,580
	Qtr 3	124,677	108,780	1,960	235,417
	Qtr 4	128,018	100,300	400	228,718
1992	Qtr 1	89,581	112,165	11,148	212,894
	Qtr 2	70,363	108,000	13,107	191,470
	Qtr 3	68,152	93,150	19,077	180,379
	Qtr 4	65,140	106,885	22,558	194,583
1993	Qtr 1	68,244	155,945	13,766	237,955
	Qtr 2	84,187	183,705	11,655	279,547
	Qtr 3	73,271	223,545	13,915	310,731
	Qtr 4	68,721	253,830	16,005	338,556
1994	Qtr 1	70,553	256,340	20,905	347,798
	Qtr 2	69,149	264,760	22,395	356,304
	Qtr 3	82,686	314,070	34,485	431,241
	Qtr 4	100,595	309,540	34,840	444,975
1995	Qtr 1	106,594	309,575	27,820	443,989
	Qtr 2	91,863	261,920	31,630	385,413
	Qtr 3	82,999	250,440	17,555	350,994
	Qtr 4	88,215	249,635	25,735	363,585

Note: 'Other' includes community health centres, nursing posts, community based organisations (eg Magenta formerly known as Phoenix) & public health units (PHU) and NSEPs refers to both mobile and fixed needle and syringe programs.

Table A1-2
Quarterly totals of needles and syringes distributed by type of outlet
WA, 1996-2004

		NSEPs	Chemist	Other	Total
1996	Qtr 1	98,318	206,065	16,010	320,393
	Qtr 2	104,007	210,560	19,590	334,157
	Qtr 3	113,875	235,675	24,355	373,885
	Qtr 4	131,550	306,805	35,320	473,675
1997	Qtr 1	121,613	280,590	33,995	436,198
	Qtr 2	113,381	257,875	40,800	412,056
	Qtr 3	128,640	335,200	42,390	506,230
	Qtr 4	115,674	364,875	58,560	539,109
1998	Qtr 1	130,668	372,565	43,365	546,598
	Qtr 2	124,868	374,145	44,310	543,323
	Qtr 3	180,986	365,140	33,105	579,231
	Qtr 4	190,360	459,736	52,455	702,551
1999	Qtr 1	213,810	414,690	37,200	665,700
	Qtr 2	183,874	430,154	46,175	660,203
	Qtr 3	201,826	459,040	37,755	698,621
	Qtr 4	198,946	548,634	47,150	794,730
2000	Qtr 1	195,440	492,302	43,100	730,842
	Qtr 2	209,998	559,689	47,180	815,867
	Qtr 3	226,985	477,760	51,035	755,780
	Qtr 4	238,676	585,243	59,660	883,579
2001	Qtr 1	223,120	484,971	39,895	747,986
	Qtr 2	236,293	510,516	49,375	796,184
	Qtr 3	279,264	702,553	62,700	1,044,517
	Qtr 4	312,144	535,452	65,855	913,451
2002	Qtr 1	326,891	425,423	33,200	785,514
	Qtr 2	315,491	479,414	63,074	857,979
	Qtr 3	379,053	387,005	79,249	845,307
	Qtr 4	425,463	444,138	87,407	957,008
2003	Qtr 1	410,232	360,998	46,331	817,561
	Qtr 2	438,876	435,979	68,732	943,587
	Qtr 3	467,255	403,956	87,153	958,364
	Qtr 4	344,767	382,533	95,620	822,920
2004	Qtr 1	339,496	432,885	57,187	829,568
	Qtr 2	373,848	432,448	78,678	884,974
	Qtr 3	438,864	432,470	87,527	958,861
	Qtr 4	455,690	426,156	105,356	987,202

Note: 'Other' includes community health centres, nursing posts, community based organisations (eg Magenta formerly known as Phoenix) & public health units (PHU) and NSEPs refers to both mobile and fixed needle and syringe programs.

Data Tables & Figures - Metropolitan Area

Table A2-1
Distribution of needles & syringes by postcode locality, Perth metropolitan area, 2000-2004

Locality	Postcodes	2000	2001	2002	2003	2004	Annual mean	Mean rate
Perth inner city	6000, 6003-6005	655,874	762,593	891,297	986,445	945,745	848,391	-
Mount Lawley-Maylands	6050-6052	207,986	237,437	164,720	131,658	139,602	176,281	50,885
Bicton-Fremantle	6157-6161	121,940	112,795	118,325	142,186	145,870	128,223	43,880
Leederville-Tuart Hill	6006-6007, 6016-6017, 6060	136,679	143,247	128,464	120,478	104,670	126,708	43,454
Victoria Park-Redcliffe	6100-6106	215,743	217,317	202,992	183,148	206,303	205,101	31,158
Cannington-Gosnells	6107-6110, 6147	186,075	223,407	228,642	205,218	237,973	216,263	20,686
Mandurah-Secret Harbour	6173-6176, 6210	74,056	121,885	143,967	140,226	120,204	120,068	20,369
Dianella-Ballajura	6059, 6061-6064, 6066-6068, 6090	295,594	324,922	275,709	253,669	275,091	284,997	19,516
Kwinana-Safety Bay	6167-6172	136,519	138,993	129,277	168,274	184,299	151,472	17,001
Kelmscott-Byford	6111-6112, 6201, 6121-6126	80,234	94,584	89,376	80,169	86,286	86,130	13,384
Bayswater-Swanview	6053-6058, 6069, 6084	123,020	140,523	149,795	170,584	163,087	149,402	12,947
Beaconsfield-Yangebup	6162-6166	95,338	102,441	91,382	90,068	104,933	96,832	10,361
Mullaloo-Quinns Rock	6027-6028, 6030-6031, 6032-6035, 6037, 6041-6044, 6065	80,283	117,055	116,911	114,584	112,148	108,196	9,591
Balcatta-Craigie	6021-6026	140,575	127,301	84,583	69,955	70,155	98,514	9,096
South Perth-Rossmoyne	6148, 6151-6152	47,663	46,100	49,028	43,978	37,298	44,813	8,270
City Beach-Carine	6015, 6018-6020, 6029	79,662	79,280	62,240	50,448	47,537	63,833	8,112
Applecross-Willagee	6149-6150, 6153-6156	64,464	64,001	54,779	46,608	43,604	54,691	5,001
Subiaco-Mosman Park	6008-6012, 6014	36,682	37,056	30,844	26,153	26,153	31,378	3,867
Kalamunda-Mahogany Creek	6070-6074, 6076, 6081-6083	11,082	10,623	7,555	6,228	5,474	8,192	1,809
Total		2,789,469	3,101,560	3,019,886	3,030,077	3,056,432	2,999,485	20,905

Note: Population data is based on the 2001 Census of estimated resident population by postcode.
Rate per 10,000 population

Data Tables & Figures - Regional Centres

Table A3-1

Annual totals of needles and syringes distributed by selected country localities, WA, 1993-1998

	1993	1994	1995	1996	1997	1998
Kalgoorlie-Boulder	32,375	77,590	59,310	64,710	108,415	104,630
Geraldton	21,830	30,330	18,745	19,635	18,220	23,498
Busselton-Margaret River	4,555	10,270	8,820	10,020	15,025	22,920
Bunbury-Eaton	7,085	25,610	18,855	21,450	31,840	45,220
Carnarvon	3,700	5,500	2,940	6,080	7,020	11,006
Broome	3,270	4,560	3,545	3,740	4,220	6,400
Esperance	2,955	3,280	4,950	5,010	6,865	10,915
Albany	4,625	7,085	3,900	3,120	2,930	4,719
Karratha	1,680	3,140	3,510	4,130	2,110	3,780
Port Hedland	2,360	4,970	13,615	12,525	13,105	17,375
Northam	305	1,515	2,590	1,925	1,620	3,975

Table A3-2

Annual totals of needles and syringes distributed by selected country localities, WA, 1999-2004

	1999	2000	2001	2002	2003	2004
Kalgoorlie-Boulder	102,109	118,256	117,750	108,737	114,782	98,592
Geraldton	35,625	52,254	56,190	58,592	63,712	72,603
Busselton-Margaret River	23,229	17,518	20,447	25,231	18,958	30,513
Bunbury-Eaton	61,769	42,604	23,634	56,679	136,797	157,462
Carnarvon	11,139	8,945	14,372	18,650	15,100	26,650
Broome	10,540	11,715	17,000	6,785	3,580	3,400
Esperance	10,298	14,922	15,727	15,812	11,501	23,218
Albany	7,700	24,019	22,301	13,605	15,692	22,982
Karratha	7,864	25,210	21,174	24,880	22,820	34,472
Port Hedland	15,800	5,775	6,370	6,225	8,150	6,318
Northam	5,430	6,510	9,325	7,335	6,697	9,969

Table A3-3

Distribution of needles & syringes by selected country localities, 2000-2004

Locality	Postcodes	2000	2001	2002	2003	2004	Annual mean	Mean rate
Kalgoorlie-Boulder	6430-6432	118,256	117,750	108,737	114,782	98,592	111,623	37,763
Carnarvon	6701	8,945	14,372	18,650	15,100	26,650	16,743	25,065
Karratha	6714	25,210	21,174	24,880	22,820	34,472	25,711	24,251
Bunbury-Eaton	6230-6232	42,604	23,634	56,679	136,797	157,462	83,435	21,195
Geraldton	6530	52,254	56,190	58,592	63,712	72,603	60,670	20,422
Esperance	6450	14,922	15,727	15,812	11,501	23,218	16,236	12,080
Northam	6401	6,510	9,325	7,335	6,697	9,969	7,967	9,730
Broome	6725	11,715	17,000	6,785	3,580	3,400	8,496	9,326
Busselton-Margaret River	6280-6285	17,518	20,447	25,231	18,958	30,513	22,533	7,249
Albany	6330	24,019	22,301	13,605	15,692	22,982	19,720	6,437
Port Hedland-South Hedland	6721-6722	5,775	6,370	6,225	8,150	6,318	6,568	5,181
Total		398,555	442,088	484,625	556,132	604,931	471,301	10,551

Table A3-4**Quarterly totals of needles and syringes distributed by selected country localities, WA, 1993-1998**

		Kalgoorlie- Boulder	Bunbury-Eaton	Geraldton	Busselton- Margaret River	Port Hedland	Albany
1993	Qtr 1	7,100	1,200	4,265	660	440	840
	Qtr 2	7,345	1,555	5,365	1,155	695	810
	Qtr 3	7,885	1,530	5,900	1,375	745	1,555
	Qtr 4	10,045	2,800	6,300	1,365	480	1,420
1994	Qtr 1	16,500	7,230	8,310	2,570	480	1,910
	Qtr 2	18,790	6,695	5,815	2,420	240	1,390
	Qtr 3	16,720	6,705	10,665	2,890	1,580	2,635
	Qtr 4	25,580	4,980	5,540	2,390	2,170	1,150
1995	Qtr 1	15,810	5,875	5,110	1,890	2,310	1,450
	Qtr 2	11,870	5,055	4,420	3,100	2,205	645
	Qtr 3	13,485	3,425	4,430	1,790	2,100	780
	Qtr 4	18,145	4,500	4,785	2,040	1,440	1,025
1996	Qtr 1	12,995	3,715	3,595	2,080	2,540	705
	Qtr 2	11,880	4,440	5,110	2,335	1,070	455
	Qtr 3	16,985	4,970	5,515	2,885	3,970	395
	Qtr 4	22,850	8,325	5,415	2,720	4,945	1,565
1997	Qtr 1	18,970	5,480	4,290	3,200	2,760	670
	Qtr 2	27,850	6,590	4,695	3,135	1,705	745
	Qtr 3	28,925	8,745	5,225	4,655	1,510	450
	Qtr 4	32,670	11,025	4,010	4,035	7,130	1,065
1998	Qtr 1	25,360	10,485	4,440	5,410	4,100	1,330
	Qtr 2	25,960	11,025	6,470	4,815	4,640	685
	Qtr 3	25,560	10,350	7,205	4,175	3,910	500
	Qtr 4	27,750	13,360	5,383	8,520	4,725	2,204

Table A3-5**Quarterly totals of needles and syringes distributed by selected country localities, WA, 1999-2004**

		Kalgoorlie- Boulder	Bunbury-Eaton	Geraldton	Busselton- Margaret River	Port Hedland	Albany
1999	Qtr 1	19,846	13,442	7,421	5,189	1,925	929
	Qtr 2	23,793	15,244	8,038	5,138	5,125	1,260
	Qtr 3	29,585	15,921	9,412	5,570	4,000	2,153
	Qtr 4	28,885	17,162	10,754	7,332	4,750	3,358
2000	Qtr 1	25,998	17,697	12,077	4,692	1,275	4,869
	Qtr 2	29,074	18,820	13,658	4,454	1,300	6,483
	Qtr 3	33,211	3,590	10,349	3,306	1,550	6,621
	Qtr 4	29,973	2,497	16,170	5,066	1,650	6,046
2001	Qtr 1	28,633	1,929	12,519	3,998	2,475	4,541
	Qtr 2	28,806	2,928	13,215	4,484	2,595	5,611
	Qtr 3	30,258	7,906	16,689	6,716	700	8,057
	Qtr 4	30,053	10,871	13,767	5,249	600	4,092
2002	Qtr 1	20,008	14,921	10,613	5,189	1,325	2,762
	Qtr 2	16,969	12,425	16,258	4,225	300	3,718
	Qtr 3	35,766	14,717	15,494	4,647	1,800	2,815
	Qtr 4	35,994	14,616	16,227	11,170	2,800	4,310
2003	Qtr 1	18,236	29,420	11,149	2,415	150	1,846
	Qtr 2	30,167	34,262	18,220	5,173	1,575	4,634
	Qtr 3	32,584	32,346	18,426	5,720	2,750	4,884
	Qtr 4	33,795	40,715	15,917	5,650	3,675	4,328
2004	Qtr 1	20,082	37,906	14,637	4,749	650	4,429
	Qtr 2	24,927	37,796	19,539	7,442	650	5,134
	Qtr 3	29,181	37,444	14,178	8,246	618	6,164
	Qtr 4	24,402	39,664	24,249	10,076	4,400	7,255

Table A3-6
Quarterly totals of needles and syringes distributed by selected country localities
WA, 1993-1998

		Carnarvon	Broome	Esperance	Karratha	Northam
1993	Qtr 1	250	660	320	210	90
	Qtr 2	1,150	480	635	240	10
	Qtr 3	1,425	1,140	995	480	60
	Qtr 4	875	990	1,005	750	145
1994	Qtr 1	1,550	1,320	590	515	150
	Qtr 2	1,250	660	780	610	220
	Qtr 3	1,400	1,440	985	1,205	500
	Qtr 4	1,300	1,140	925	810	645
1995	Qtr 1	500	600	1,190	810	745
	Qtr 2	860	600	700	450	720
	Qtr 3	740	360	680	126	690
	Qtr 4	840	540	880	990	435
1996	Qtr 1	420	120	1,270	605	360
	Qtr 2	2,000	900	860	755	940
	Qtr 3	2,310	980	960	1,560	205
	Qtr 4	1,350	1,140	1,920	1,210	420
1997	Qtr 1	2,310	1,020	1,020	420	165
	Qtr 2	1,170	730	1,430	600	200
	Qtr 3	3,060	1,050	2,205	270	235
	Qtr 4	480	1,420	2,210	820	1,020
1998	Qtr 1	1,660	990	1,940	850	1,370
	Qtr 2	2,310	1,915	3,470	390	1,410
	Qtr 3	4,080	1,490	1,935	1,065	660
	Qtr 4	2,956	2,005	3,570	1,475	535

Table A3-7
Quarterly totals of needles and syringes distributed by selected country localities
WA, 1999-2004

		Carnarvon	Broome	Esperance	Karratha	Northam
1999	Qtr 1	1,517	2,840	1,769	2,295	760
	Qtr 2	2,278	2,745	2,624	1,116	945
	Qtr 3	3,572	2,650	3,065	2,852	1,985
	Qtr 4	3,772	2,305	2,840	1,601	1,740
2000	Qtr 1	2,836	2,280	2,713	5,798	1,165
	Qtr 2	2,011	3,300	3,887	5,938	1,745
	Qtr 3	536	2,775	2,910	7,020	1,775
	Qtr 4	3,562	3,360	5,412	6,454	1,825
2001	Qtr 1	1,120	2,560	3,505	993	1,585
	Qtr 2	1,480	2,830	4,115	7,816	2,015
	Qtr 3	4,912	7,110	4,319	5,994	3,115
	Qtr 4	6,860	4,500	3,788	6,371	2,610
2002	Qtr 1	3,300	1,050	2,795	1,059	1,770
	Qtr 2	3,600	2,220	2,480	11,394	2,840
	Qtr 3	450	1,895	3,647	11,278	1,415
	Qtr 4	11,300	1,620	6,890	1,149	1,310
2003	Qtr 1	150	495	2,840	1,408	463
	Qtr 2	750	1,705	3,775	9,506	2,507
	Qtr 3	8,000	930	3,386	6,678	1,984
	Qtr 4	6,200	450	1,500	5,228	1,743
2004	Qtr 1	1,000	645	4,368	7,072	1,837
	Qtr 2	4,500	955	5,290	10,350	2,344
	Qtr 3	10,150	805	5,982	5,692	2,766
	Qtr 4	11,000	995	7,578	11,358	3,022

Figure A4-1
Quarterly needles and syringes, Bunbury-Eaton postcode areas, 1993-2004

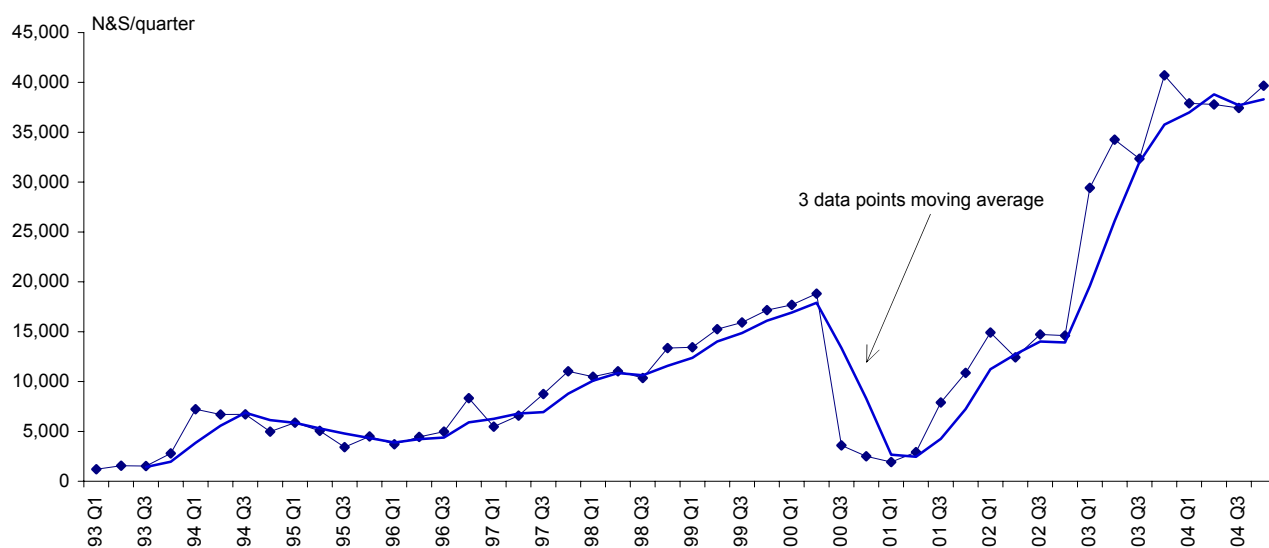


Figure A4-2
Quarterly needles and syringes, Busselton-Margaret River postcode areas, 1993-2004

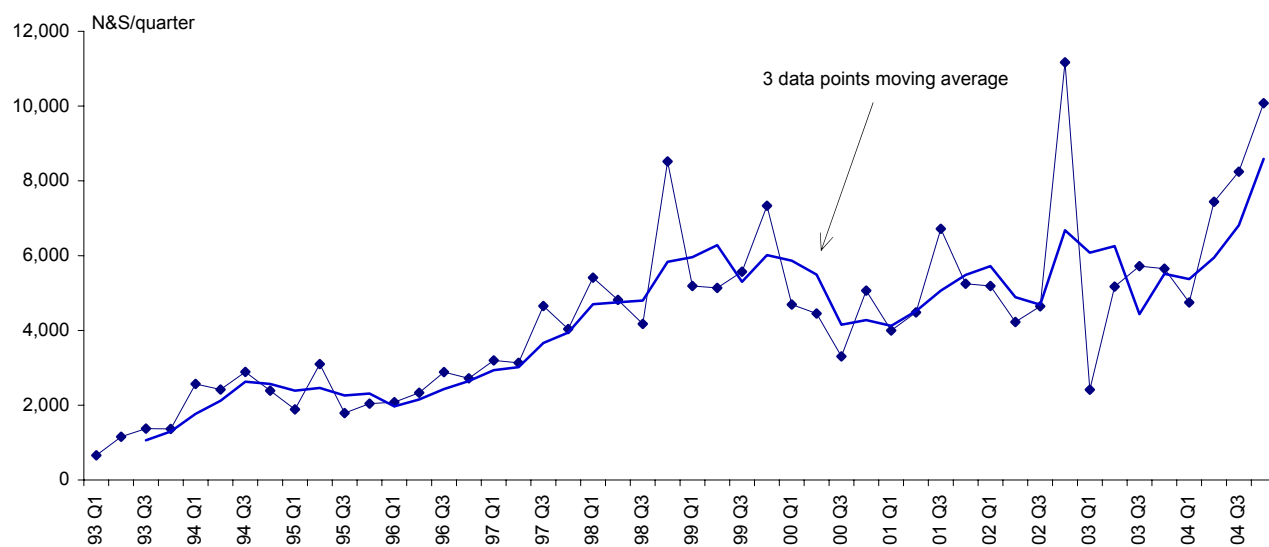


Figure A4-3
Quarterly needles and syringes, Albany postcode area, 1993-2004

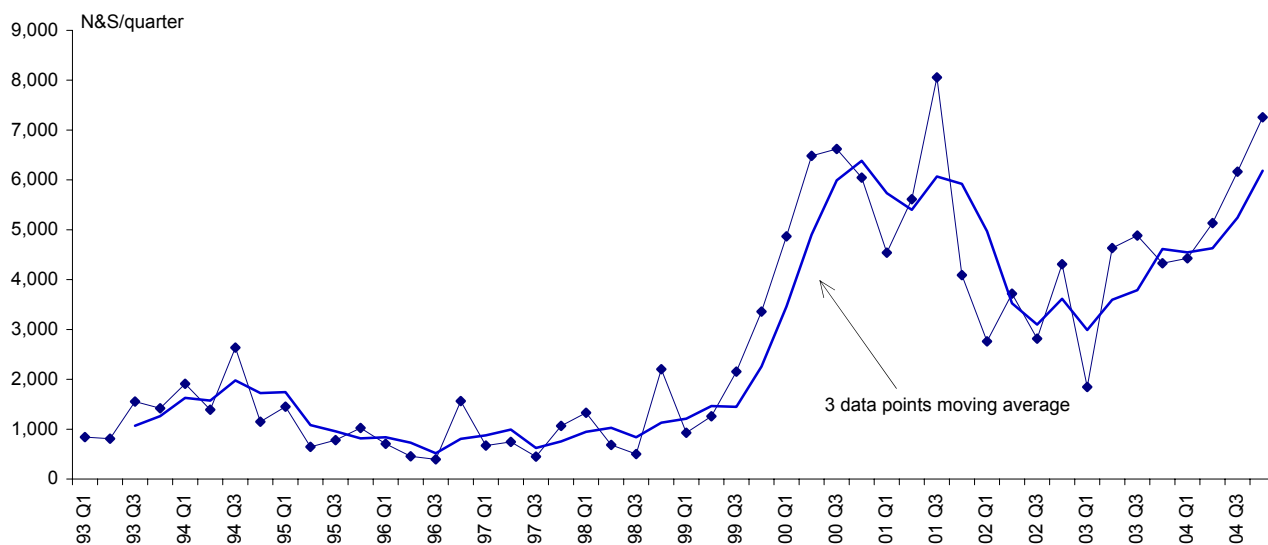


Figure A4-4
Quarterly needles and syringes, Kalgoorlie-Boulder postcode areas, 1993-2004

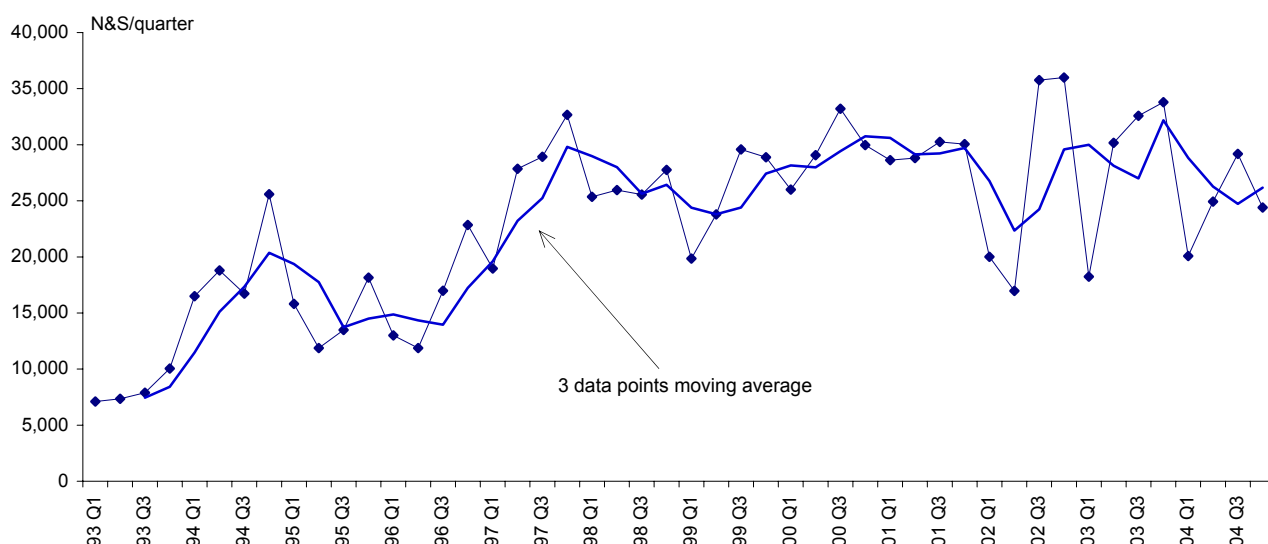


Figure A4-5
Quarterly needles and syringes, Esperance postcode area, 1993-2004

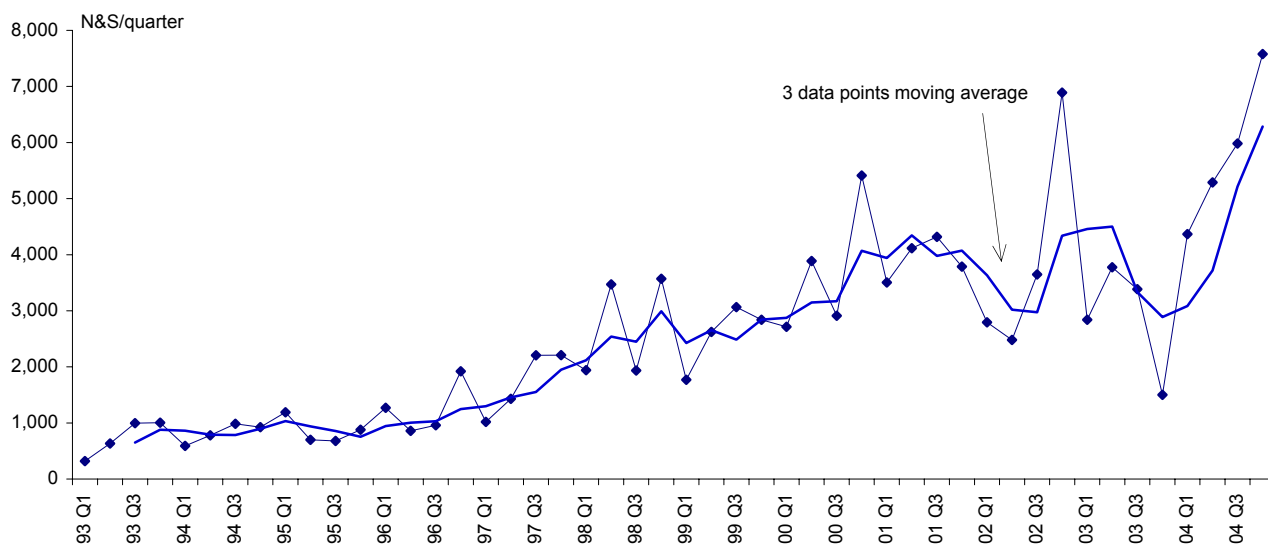


Figure A4-6
Quarterly needles and syringes, Geraldton postcode area, 1993-2004

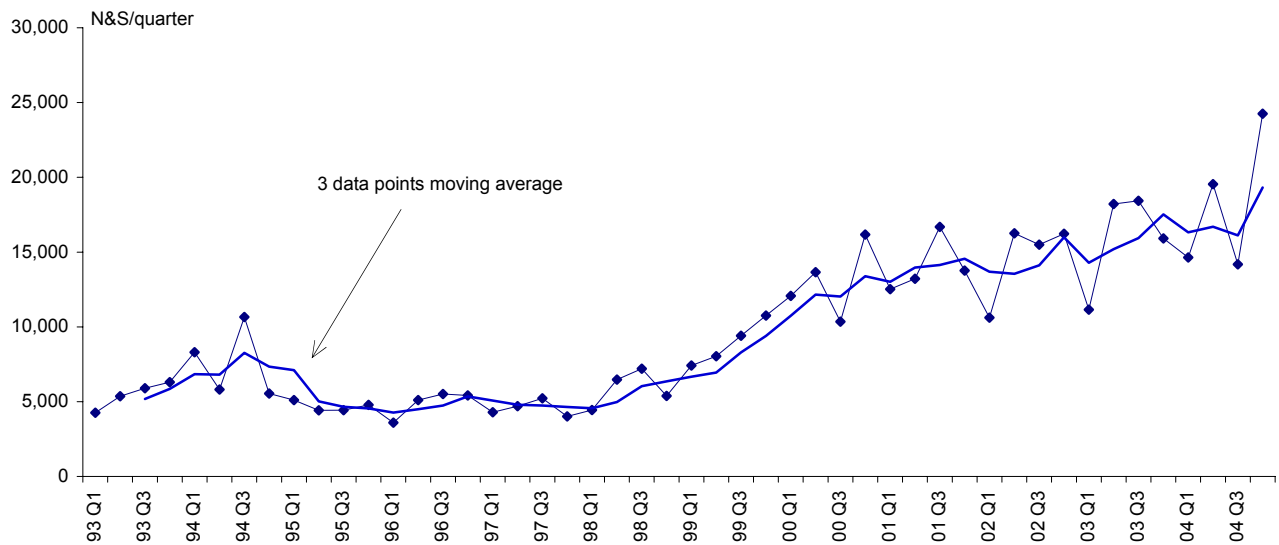


Figure A4-7
Quarterly needles and syringes, Carnarvon postcode area, 1993-2004

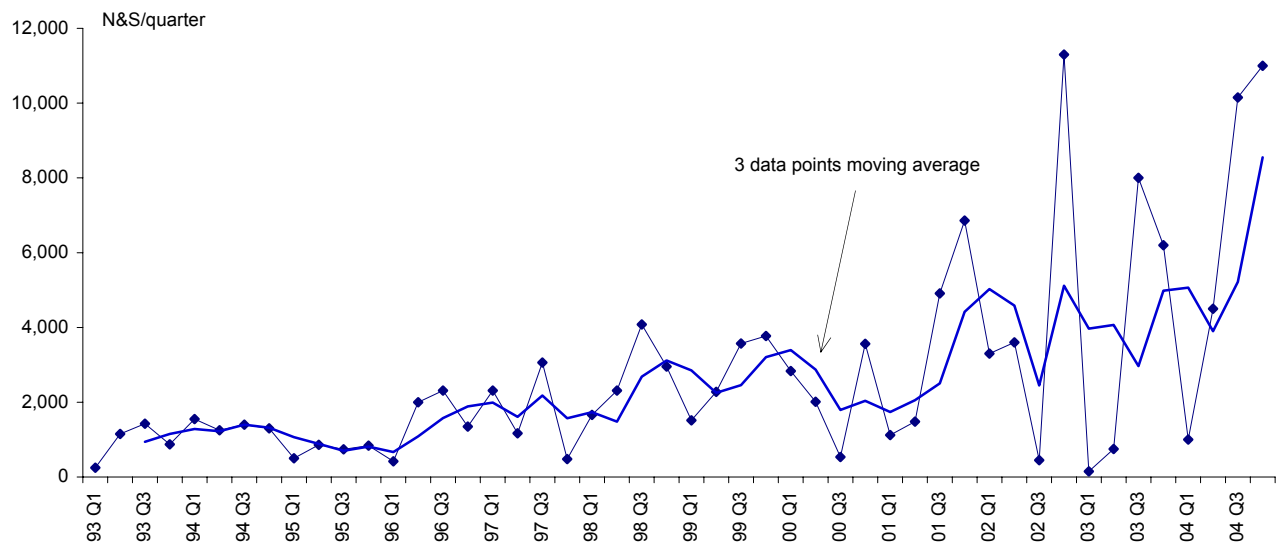


Figure A4-8
Quarterly needles and syringes, Port Hedland postcode area, 1993-2004

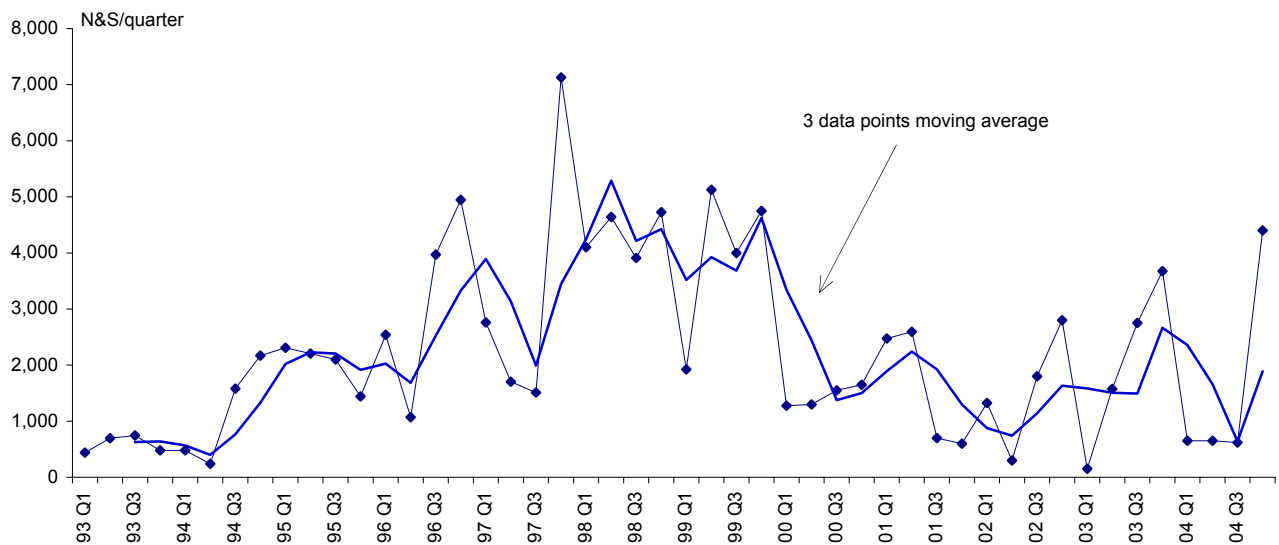


Figure A4-9
Quarterly needles and syringes, Karratha postcode area, 1993-2004

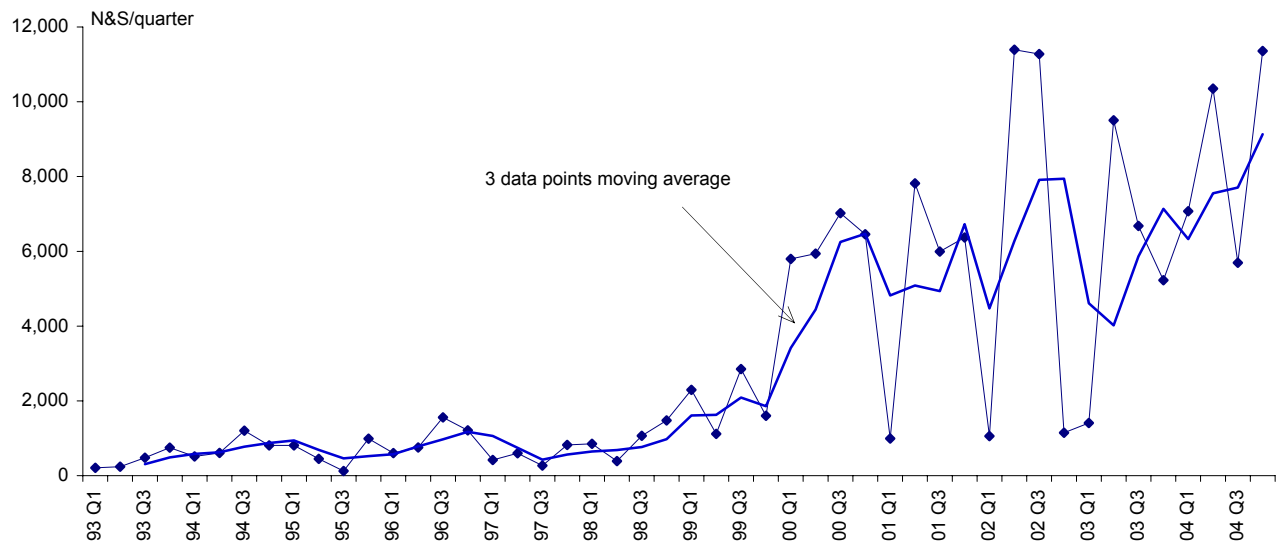
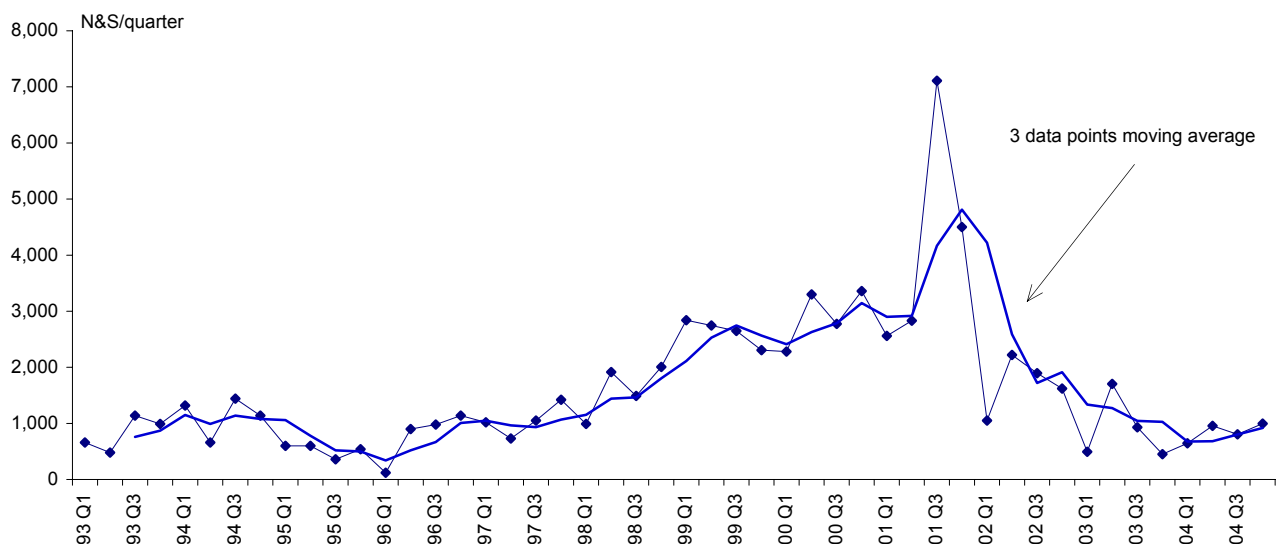


Figure A4-10
Quarterly needles and syringes, Broome postcode area, 1993-2004



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

Leederville-Tuart Hill: 6006-6007, 6016-6017, 6060

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

Victoria Park-Redcliffe: 6100-6106

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

Mandurah-Secret Harbour: 6173-6176, 6210

Secret Harbour, Karnup, Golden Bay, Singleton, Madora, Falcon, Mandurah

Cannington-Gosnells: 6107-6110, 6147

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

Dianella-Ballajura: 6059, 6061-6064, 6066-6068, 6090

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

Kwinana-Safety Bay: 6167-6172

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

Kelmscott-Byford: 6111-6112, 6121-6126, 6201

Kelmscott, Armadale, Forrestdale, Oakford, 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

Balcatta-Craigie: 6021-6026

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

City Beach-Carine: 6015, 6018-6020, 6029

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

Mullaloo-Quinns Rock: 6027-6028, 6030-6031, 6032-6035, 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

Applecross-Willagee: 6149-6150, 6153-6156

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

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

Public Health Benefits of NSPs

Needle and syringe programs (NSP) are a major public health measure to reduce the transmission of blood borne viruses (BBVs). Australia has maintained a low rate of HIV transmission amongst people who inject drugs via the provisions of sterile injecting equipment and information since the late 1980s. In Western Australia (WA) the *Poisons Act 1964* was amended in 1994 to enable approved organisations to provide a NSP.

Injecting drug users (IDUs) have access to sterile injection equipment and information through the needle and syringe exchange programs (NSEP) operated by the WA AIDS Council (WAAC) and the WA Substance Users' Association (WASUA).

The WAAC provides a mobile service which visits 12 sites each week in the Perth metropolitan area. WASUA provides a fixed site exchange program in the Perth inner metropolitan area in Northbridge, as well as a mobile service in Bunbury, a major regional centre in the South West of the State. Injecting equipment is provided from these NSEP at no cost to clients upon the return of used items, otherwise a cost recovery charge applies.

Sterile injection equipment is also sold by pharmacies in both metropolitan and non metropolitan areas and distributed by a number of non metropolitan hospitals, usually after pharmacy trading hours or where pharmacy provision is not available. Needles and syringes (N&S) are also sold from a vending machine based at the Kalgoorlie Regional Hospital which provides an after hours service.

In 2002 by the National Centre for HIV Epidemiology and Clinical Research auspiced a research project to ascertain the return on the investment in NSP in Australia. The research involved an ecological study of changes in HIV and HCV prevalence among IDUs by comparing cities with and without NSP.

"The analysis found that cities that introduced NSP had a mean annual 18.6% decrease in HIV seroprevalence, compared with a mean annual 8.1% increase in HIV seroprevalence in cities that had never introduced NSP ... Overall the results indicated little change in HCV prevalence before NSP were introduced, followed by a decline after the introduction of NSP."

The research also demonstrated the economic effectiveness of NSP in Australia in 2000. The report includes a review of the effectiveness of NSP by analysis of 103 studies in the international literature. This established that cities which had introduced NSP had a mean annual decrease in HIV seroprevalence of 18.6% among IDUs, compared to a mean annual increase of 8.1% seroprevalence in cities that had never introduced harm reduction programs.

A study of the frequency of use of sterile N&S by nearly 600 active IDUs in seven US metropolitan cities found a median of three injections for the most recently used syringe and that one in five IDUs had used that syringe only once.²

An interview survey of 8,400 IDUs in 1998 at 18 different sites in the United States found high rates of re-use of used injection equipment, with one third of the respondents using injection equipment they knew had been previously used, with a mean frequency of transfer of syringes of 7.6 times in the past 30 days.³

The AIVL *national injecting equipment disposal study* was published in April 2002, as part of a two year program by the Australian Injecting and Illicit Drug Users League (AIVL) to investigate the disposal of injecting equipment.

This report shows that IDUs have a high level of concern about the safe disposal of used injecting equipment and that the small proportion of incidents where inappropriate disposal occurs is frequently due to unplanned use in unfamiliar environments. The study also found that inappropriate disposal is closely related to a lack of acceptable options for disposal, the possibility of threat of police interference or insufficient knowledge of safe disposal options.⁴

The most recent report of the *Australian NSP survey: National Data Report 1999-2003* was published in June 2004. Nationally from 1999 to 2003 the report established an increasing use of new N&S by PWID and decreasing rates of N&S re-use in the month preceding the survey.

References

¹ Health Outcomes International, National Centre for HIV Epidemiology & Clinical Research, Drummond M. *Return on investment in needle & syringe programs in Australia*. Canberra, Commonwealth Department of Health and Ageing, 2002, 1-2.

² Gleghorn AA, Wright-De Agüero L, Flynn C. "Feasibility of one-time use of sterile syringes: a study of active injection drug users in seven United States metropolitan areas." (1998) 18 (Supplement 1) *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* S30-S36.

³ Wang J, Siegal HA, Falck RS, Carlson RG. "Needle transfer among injection drug users: a multilevel analysis." (1998) 24 *American Journal of Drug & Alcohol Abuse* 225-237.

⁴ Kelsall J, Lloyd S, Kerger M, Crofts N. *AIVL national injecting equipment disposal study*. Sydney, Australian Intravenous League, 2002.

⁵ Thein HH, Maher L, Dore G. Australian NSP Survey. *Prevalence of HIV, HCV and injecting and sexual behaviour among IDUs at needle and syringe programs. National Data Report 1999-2003*. Sydney, National Centre in HIV Epidemiology and Clinical Research, University of New South Wales 2004, 154.

Methodology

Previous publications

This report updates N&S data previously published in *Statistical Bulletin No. 3* (December 1996), *Statistical Bulletin No. 6* (February 2000), *Statistical Bulletin No. 7* (March 1999), *Statistical Bulletin No. 14* (July 2001) and *Statistical Bulletin No. 18* (December 2003).

Source of data

As monthly records are maintained of the number of N&S ordered by each individual pharmacy, it is possible to collate the number of N&S by outlet and locality for each pharmacy based NSP.

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 where the van operates 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 years 2000 to 2003 in the Perth metropolitan area based on postcode locality for all outlets.

Interpretation of data

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 the suburbs listed. The suburbs within each locality are listed in Appendix 2.

There are limitations in using postcode data to identify possible differences between localities in the rate of access to NSPs by IDUs since, as in some areas, chemists do not retail N&S. Also some areas may show higher volume of distribution than other areas because IDUs have come from adjacent suburbs to access the nearest outlet.

While a local pharmacy may retail N&S as Fitpacks®, SharpzKitz® and Sterafit® packs, costs may be determinant of clients accessing pharmacy based versus other types of NSP.

Caution should be exercised in making inferences about underlying patterns of injecting drug use based on the distribution of N&S by postcode data, as some outlets may be located on major transport routes.

Another caution in interpreting data is that a number of pharmacies located in the metropolitan area provide after hours access to N&S and this may attract a greater number of clientele from outside that locality.

Furthermore, WASUA's fixed site NSEPs distributes 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, a high volume of N&S distribution does not indicate more prevalent injecting drug use by residents of the area.

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.

Note: Minor discrepancies occur between annual and quarterly totals in Tables 1, A1 and A2 prior to 2001 due to extensive cleaning of the database. Therefore, information reported in earlier publications may not accurately reflect revised totals published in this report.

Acronyms used

BBVs	Blood borne viruses
IDUs	Injecting drug users
N&S	Needles & syringes
NSP	Needle & syringe program
NSEP	Needle & syringe exchange program
WASUA	WA Substance Users' Association
WA	Western Australia

Data revision

Data presented in this bulletin may vary from earlier publications because the datasets operated by the department and other organisations who also provide data used to compile this report may have been revised due to cleaning, recoding and/or updates of systems.

Further information

This report was written by Greg Swensen, Drug & Alcohol Office and Catherine Montigny, Communicable Disease Control Directorate.

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