



New Zealand Needle Exchange Programme

Availability Report

July 2020-June 2021

NEEDLE EXCHANGE SERVICES TRUST | October 2021

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Acronyms and Glossary

ADIO — Auckland Drug Information Outreach

 East Street

 South Auckland

 Wellsford

 NINE Whangārei

DAA — Direct Acting Antiviral

DHDP — Drugs, Health & Development Project

 Wellington

 Palmerston North

 Napier

 Whanganui

 Wairarapa

DISC — Drug Injecting Services in Canterbury

 Christchurch

 New Brighton

 Nelson

 Dunedin

 Invercargill

 West Coast Mobile

MIDLANDS —

 Hamilton

 New Plymouth

 Rotorua

 Mount Maunganui

TNET — Timaru Needle Exchange Trust

 Timaru

 Ashburton

NEST — Needle Exchange Services Trust

NEX — Needle Exchange

NZNEP — New Zealand Needle Exchange Programme

Regional Trusts — ADIO, DHDP, DISC, MIDLANDS, TNET

Introduction

This report provides information on the distribution of injecting equipment — needles, syringes and wheel filters — by the New Zealand Needle Exchange Programme (NZNEP), for the July 2020 to June 2021 financial year. This marks a return to financial year reporting from the previous report, which covered the 2020 calendar year. The present reporting period will be referred to by the short form June 2021.

The NZNEP provides Harm Reduction services across New Zealand through a network currently consisting of 20 dedicated exchanges, 2 mobile services, 1 online shop, 193 pharmacies and 8 alternative outlets. Established in 1987, the NZNEP has grown during the last 33 years with over 3.9 million needles now distributed annually. The programme is predominantly funded by the Ministry of Health.

As part of our broader harm reduction services, the NZNEP distributes two broad categories of equipment:

- 1) free equipment known as one-for-one (1-4-1); and
- 2) other equipment purchased by clients at a retail price.

In 2004 the Ministry of Health policy changed and a range of equipment was provided free to clients through the NZNEP programme. The free equipment includes 3ml syringes and 27 types of needles. This equipment in the report will be referred to as “free”. The list of free equipment approved by the Ministry of Health has not been updated since 2004 despite drug use changing over this period.

Other equipment covered in this report and not available under this free scheme must be purchased by clients from NZNEP outlets and so will be referred to as “purchased” equipment. This includes filters, butterfly needles and syringes with fixed needles, and a range of syringes (other than the 3ml syringe).

NZNEP outlets are also of two general types. These include:

- 1) NZNEP dedicated needle exchanges (NEXs) providing harm reduction equipment and advice; and
- 2) participating pharmacies and alternate outlets who provide equipment. Alternate outlets include sexual health clinics and services run by the Aotearoa Sex Workers’ Collective.

1. Overview of total distribution - needles only

Table 1 describes distribution figures for the period, for free and purchased needles from both NEXs and pharmacy/alternate outlets. The figures and percentages in the ‘Totals’ column describe the total distribution of all needles, for the whole programme. The two far right columns list percentages of total distribution, for free and purchased equipment, for the two types of outlets, i.e. pharmacies/alternates and NEXs, respectively. For example, 497,527 free needles distributed by pharmacies/alternate outlets comprise 12.7% of all distributed needles. Similarly, 470,630 needles purchased from NEXs comprise 12.1% of all needles distributed during this reporting period. Overall, NEXs distributed 84.4% (3,293,985) of all needles in this reporting period.

Table 1: July-June 2021 combined total distribution of needles by outlet and equipment type (free or purchased)

Year		Pharm/Alt		NEX		Total	Pharm/Alt	NEX
Jul-Jun 21	'1-4-1 (Free)	497,527	15.0%	2,823,355	85.0%	3,320,882	12.7%	72.3%
		81.6%		85.7%		85.1%		
Jul-Jun 21	Purchased	112,430	19.3%	470,630	80.7%	583,060	2.9%	12.1%
		18.4%		14.3%		14.9%		
		609,957	15.6%	3,293,985	84.4%	3,903,942		

1.1 Distribution Totals

For this reporting period the distribution of needles from all outlets increased to 3,903,942 units representing a 3.42% increase over the preceding 12-months.¹

3.9 million needles were distributed which represents an increase of 3.4% compared with July-June 2020.

The bulk of all equipment (84.4%) was distributed by NZNEP NEXs (*Table 1*). This represents a 4.4% increase for NEX distribution compared with the previous 12-months. By contrast, pharmacy/alternate distribution (613,325 needles) was down by 2.8% compared with July-June 2020.

1.2 Equipment types — free and purchased needles

Free Needles

Of the total needles distributed 3,903,942, 85.1% (3.32 million) were distributed free. These 3.32 million free needles distributed represent a 5.1% increase in free distribution compared with the preceding 12-months.

3.29 million needles were distributed by Needle Exchanges alone, representing an increase of 5.1% compared with the preceding 12-months.

Purchased Needles

By contrast, over there was a reduction (6.4%) in the distribution of purchased needles, with this category of equipment comprising 14.9% of all needles distributed.

There was a reduction in purchased needles of 6.4% compared with the preceding 12-months

1.3 Interactions between outlet and equipment types

A more nuanced understanding of national distribution trends is obtained by analysing distribution by outlet type. For example, compared with the preceding 12-months, pharmacy/alternate distribution of free equipment (*table 1*; 497,527) dropped by 5.3% while for NEXs (2,823,355) this increased by 7.4%. However, for purchased equipment the opposite trend was evident, with pharmacy/alternate distribution (112,430) increasing by 10.6% and decreasing for NEXs (470,630) by 9.6%. To put this into

¹ This total excludes 22,346 needles sold through the Online Shop / NEST. The latter include 860 blunt needles.

perspective, the 10.6% increase for pharmacies represents a further 10,790 needles compared with the preceding 12-months.

Free needles distributed by NEXs increase by 7.4%, whilst those distributed by pharmacies and alternate outlets decreased by 5.3%

Purchased needles distributed by NEXs reduce by 9.6%, whilst those distributed by pharmacies and alternate outlets increased by 10.6%

1.4 Reasons for 2020 distribution trends and variations compared with 2019

In terms of overall numbers, changes in distribution of needles are driven by both the uptake of free equipment and the significance of NEXs as the programme's most popular point of access. Thus, while pharmacies/alternate outlets saw a proportionately large increase (10.6%) in purchased needles during the period and NEXs saw purchased needles reduce by 9.6%, because purchased needles comprise a relatively small proportion of all needles (583,060 or 14.9% of all needles; *table 1*), these represent minor fluctuations rather than significant changes in distribution.

Rather, the programme's total overall increase for the period relative to the preceding 12-months (3.4%) is explained by NEXs dominating needle distribution (84.4%) and free needles accounting for 85.1% of all distributed needles (*table 1*). This trend has been evident for some years and reflects the fact that clients value the safe, non-judgmental and stigma-free setting created by the NZNEP peer-based service (see *figure. 1* below).

NEXs distribute 84.4% of all needles

Free needles make up 85.1% of total equipment distributed

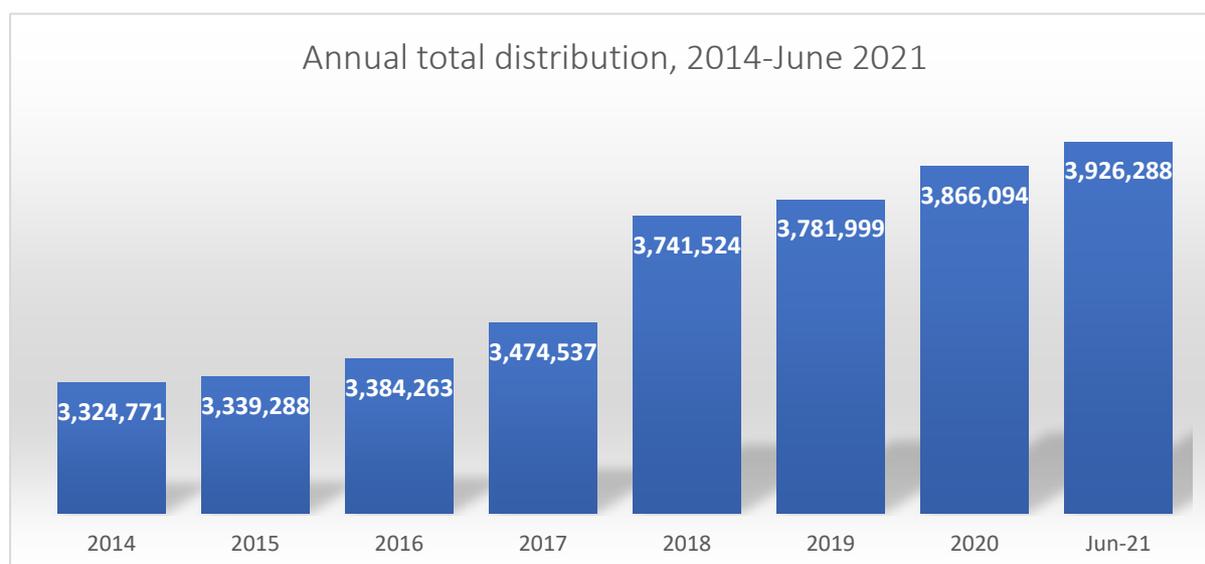


Fig. 1: Annual increases of free and purchased needles across all NEP outlets, 2014-June 2021

In summary the 3.4% increase in needle distribution across the country for continues the programme’s recent trend in modest but consistent annual increases (*Figure 1*).

2. Distribution of needles by dedicated needle exchanges (NEXs)

This section details the distribution of needles from the NZNEP’s 21 dedicated needle exchange services (NEXs).² The NEXs, including the West Coast Mobile service, are clustered by Regions with one NEX in each Region acting as the regional hub. The clusters exist as five independent ‘regional trusts’ and are located in the same respective geographical areas as the four Health Areas. The latter divide the country into the Northern, Midlands, Central, and Southern (the South Island) Areas. The five trusts are: ADIO, MIDLANDS, DHDP and DISC. TNET (comprising the Timaru and Ashburton NEXs) also in the Southern Region.

Distribution of needles over the period by each of the five regional trusts is shown below in *Figure 2* and in *Table 2*. Pharmacies and alternate outlets are excluded. Data in *Table 2* show individual NEX distribution, as well as clustered per regional trust. In *Table 2* the percentage figures show each trust’s proportion of needles distributed by the NZNEP’S dedicated NEX services (including mobile), which is also represented in *Figure 2*. The bulk of distribution is shared by the four larger trusts, in order: DISC 39.5%; ADIO 21.8, DHDP 21.2%; MIDLANDS 13.2%. TNET 4.2%. The smaller Timaru-based trust comprising the Timaru and Ashburton NEXs accounts for 4.2% of total trusts’ needle distribution. DISC’s Rodger Wright Centre in Christchurch is the largest distributor (648,972), while ADIO’s Wellsford NEX is the smallest NEX outlet in terms of distributed needles (19,903).

2.1 Distribution of needles by regional trust and respective NEXs

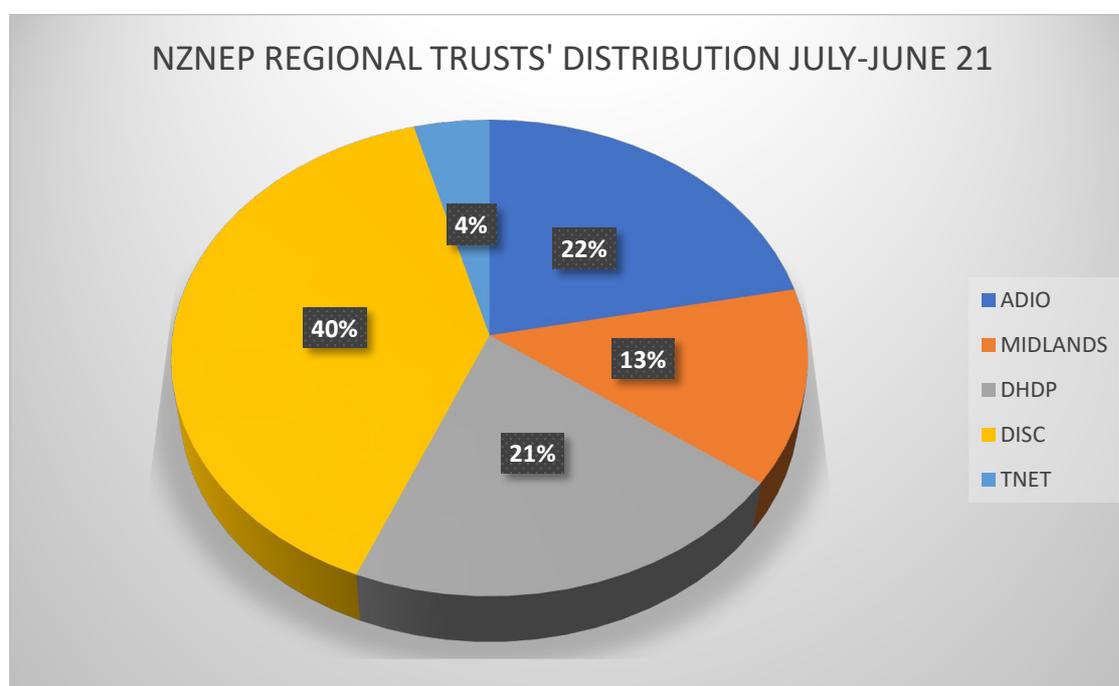


Fig. 2: Regional Trusts’ distribution as % of total trusts’ needles, July-June 2021

² Distribution from DHDP Masterton’s mobile service and the Online Shop are generally not described separately in this report. The latter was initiated in May 2020 and licenced out of Christchurch’s RWC, before receiving its own licence in 2021 and now being run directly by NEST. It distributes around the country and therefore its figures are not allocated to a single region.

Table 2: Distribution of free and purchased needles by NZNEP regional trusts, with percentage per region, July-June 21

DHB Regions	Regions and Trust	2020-21 Distribution Needles	Combined NEX total and as % of all Trusts
Northern	Northern - ADIO		718,699 (21.8%)
Auckland, Northland	East St Ak	528,474	
	South Ak	111,497	
	Wellsford	19,903	
	Whangārei	58,825	
Midlands	Midlands		435,731 (13.2%)
Bay of Plenty, Gisborne, Rotorua, Ruapehu, Taranaki, Taupo, Tauranga, Waikato	Mt Maunganui	56,479	
	New Plymouth	144,357	
	Hamilton	182,245	
	Rotorua	52,650	
Central	Central - DHDP		699,298 (21.2%)
Hawkes Bay, Hutt Valley, Manawatu, Wairarapa, Whanganui, Wellington	Napier	145,584	
	Palmerston North	213,863	
	Wairarapa	42,990	
	Wellington	226,326	
	Whanganui	70,535	
Southern 1	Southern 1 - DISC		1,300,502 (39.5%)
Nelson/Marlborough, Canterbury, Otago, Southland, West Coast	Dunedin	215,323	
	Nelson	129,685	
	Christchurch	648,972	
	New Brighton	157,398	
	Invercargill	95,034	
	West Coast Mobile	54,090	
Southern 2	Southern 2 - TNET		139,873 (4.2%)
Canterbury, South Canterbury	Ashburton	35,544	
	Timaru	104,329	
Total of all NZNEP trusts' needles			3,294,103 (100%)

2.2 Variation in NEX distribution.

In *Figure 3* the variation in NEX distribution of needles between 2020-2021 and 2019-2020 is described, with a percentage difference shown as a distribution increase or decrease. For example, East Auckland (ADIO East St) recorded an increase of 3.5% in overall distribution compared with the 2019-2020 financial year, while South Auckland (ADIO STH) provided ADIO's largest increase (20.34%) over this period. However, the largest increases over the period were all associated with South Island NEXs: Timaru 33.87%, New Brighton 39.21% and Ashburton 49.34%. This almost 50% (12,000 needles) over that NEX's preceding 12-month distribution, was clearly substantial for a small regional NEX, particularly when combined with the 34% increase experienced by TNET's other NEX in Timaru.

Conversely, *Figure 3* shows 6 NEXs recorded reductions in distribution of needles for the period, compared with the preceding 12-months. In contrast to the significant increases, these decreases were a relatively small, ranging from New Plymouth's -0.42% to Christchurch's (RWC) -4.87%. These relatively fewer and smaller decreases in outlet distribution compared with the larger number of greater-magnitude increases for the current reporting period are consistent with the programme's overall growth (4.6%) for the July-June 21 period, which is particularly evident in the South Island NEXs.

2020/2021 Percentage Variance of Needle Distribution by Regional Trust & NEX, Compared with 2019/2020

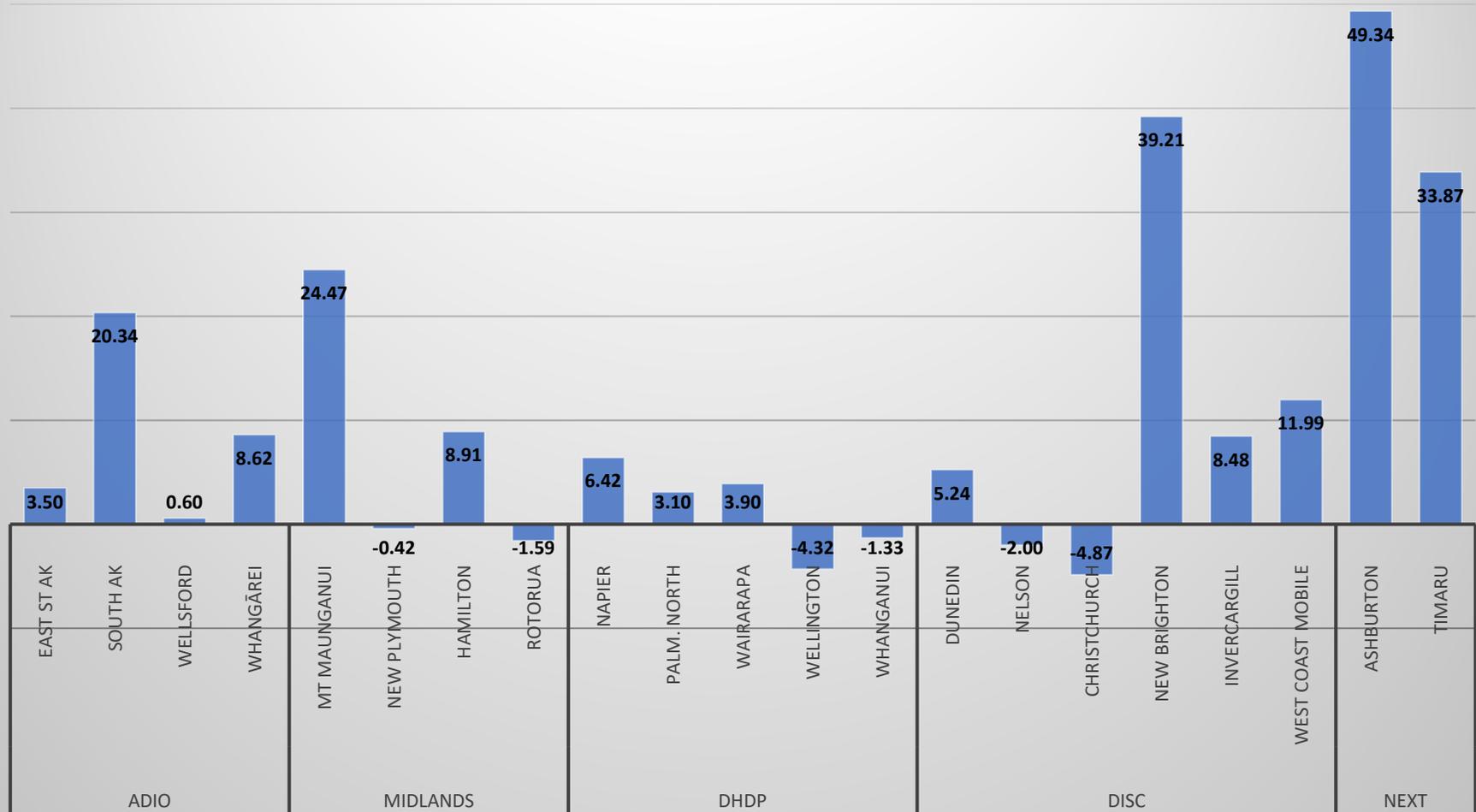


Fig. 3: July-June 21 percentage of variance for needle distribution, by Regional Trust and NEXs, compared with 2019-2020

3. Pharmacies and alternate outlets

This section of the report describes pharmacy and alternate outlet distribution data. Despite these outlets consistently distributing approximately only 15% of all needles, they nonetheless represent an important component of the programme, particularly in areas where there is no access to dedicated NZNEP outlets.

3.1 Numbers of pharmacies and alternate outlets

Trends from previous years continued. There was a net increase over the reporting period of 4 pharmacies, compared with the preceding 12-months. Details are shown below in *Table 3*, with a total of 201 non-NEX outlets overall.

Table 3: Numbers, types and variances of pharmacy and alternate outlets, at June 2021

Outlet type	Numbers	Joined NZNEP	Left NZNEP
Pharmacy	191	9	5
NZPC	3		
Sexual Health Clinic	4		
Hospital dispensary	3		

3.2 Pharmacy and alternate outlets serving regional trusts' areas

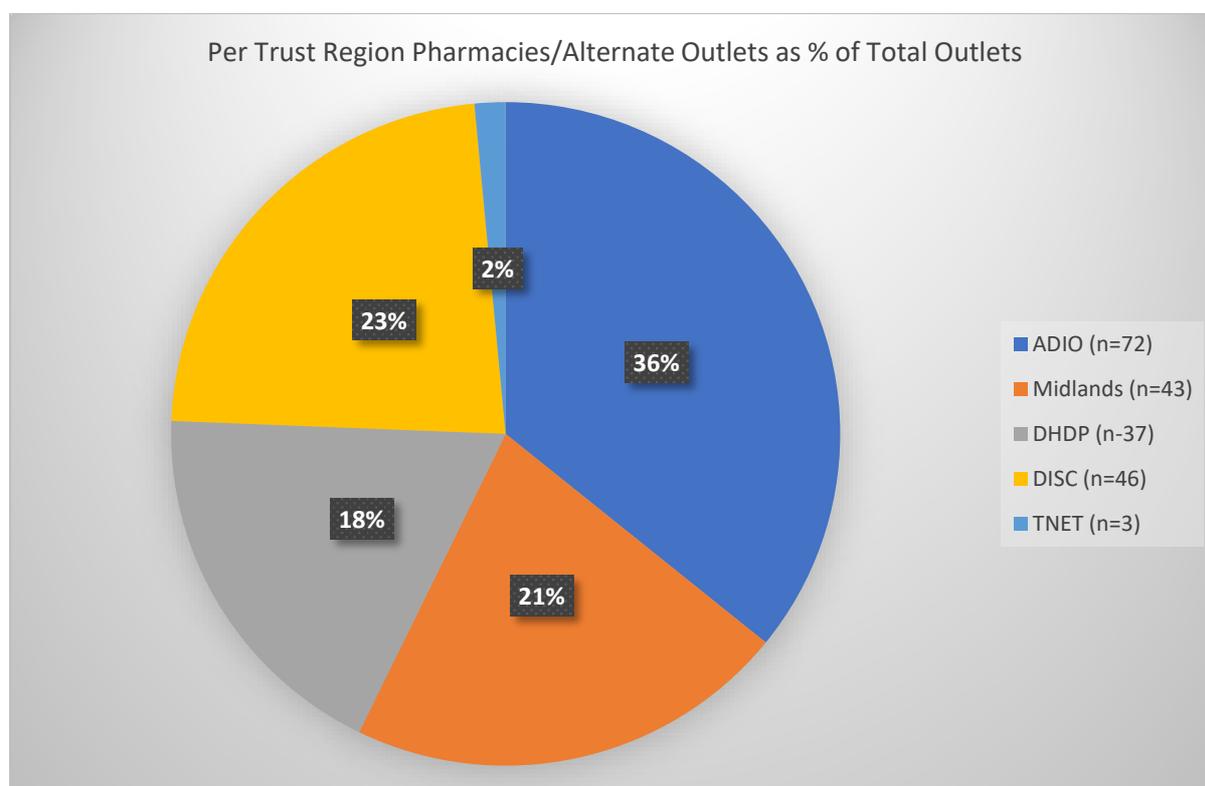


Fig. 4: Numbers of pharmacy/alternate outlets per trust region at June 2021, as a percentage of all non-NEX outlets

Figure 4 shows the distribution of the programme's 201 non-NEX outlets across the regions as defined by each NEP trust. The largest number and proportion of these outlets (i.e. 72 outlets or 35.8% of all pharmacies and alternates) is located in the Northland / Auckland regions, covered by the four ADIO

NEXs. The regions covered by the four Midlands (21.4%/n=43 outlets) and six DISC (22.9%/n=46 outlets) NEXs are also served by similar numbers of these pharmacies and alternate outlets, while the region covered by the TNET dedicated NEXS (Timaru and Ashburton) is served by only three pharmacies comprising, 1.5% of the total non-NEX outlets.

3.3 Top 10 pharmacies and alternate outlets

Table 4 below lists the programme's top 10 pharmacies and alternate outlets for needle distribution for the July-June 21 period, showing comparisons with 2020.

Table 4: Top 10 non-NEX outlets July-June 21 ranked; purchased, free and combined needle distribution vs 2020

Rank 2020	Rank 2021	Region	Name	Free	Purchased	Combined 2021	Combined 2020	Variance %
1	1	DISC	Ferry Road Pharmacy	41,200	150	41,350	34,950	18%
2	2	DISC	Eastgate Unichem pharmacy	31,754	2,450	34,204	31,945	7%
3	3	DISC	Oamaru Pharmacy	21,923	4,650	26,573	27,721	-4%
4	4	MIDLANDS	NZPC Tauranga	15,791	7,750	23,541	27,520	-14%
8	5	MIDLANDS	Avalon Pharmacy	20,650	600	21,250	15,110	41%
5	6	ADIO	Roskill Healthcare Pharmacy	18,095	3,150	21,245	22,767	-7%
6	7	MIDLANDS	Pharmacy 53	17,720	-	17,720	21,530	-18%
14	8	DISC	Poswillo Pharmacy	17,082	350	17,432	13,328	31%
18	9	ADIO	Birkenhead Unichem Pharmacy	13,465	1,200	14,665	11,923	23%
11	10	MIDLANDS	Stratford Pharmacy	13,530	-	13,530	14,440	-6%
Totals				211,210	20,300	231,510	221,234	7%

As with the preceding reporting period, four of the top ten outlets listed in Table 4 are in the South Island region also covered by DISC NEXs. These include the country's top three distributing pharmacies, located in Christchurch (2) and Oamaru (1). The region covered by the Midlands' NEXs is also served by three of the top ten pharmacies, as well as the Aotearoa Sex Workers' Collective Tauranga outlet. The latter is the only alternate outlet in the top 10 non-NEX outlets nationally. Completing this list are two Auckland pharmacies (in the region also served by 2 ADIO NEXs), including one (Birkenhead) previously not in the top 10. Unlike the previous reporting period, none of the top 10 outlets are in the region serviced by the DHDP NEXs.

Four of the top five ranked pharmacies for this reporting period are the same as for the preceding 12-months, with the 5th ranked Avalon Pharmacy only joining the programme during 2020. The lower half of the table is slightly more volatile. This suggests both relative stability for the most popular pharmacies but also the potential for significant changes in client need in some areas, e.g. where a change in an area's client base may promote an increase or decrease in distribution, or where changes in drug trends in terms of availability or price may alter the practices of current clients. Drug availability, or perhaps more accurately, specific drugs used by an outlet's clients, is a particularly significant factor for some outlets. The most obvious example of this in Table 4 is Tauranga's NZPC outlet, where 33% of equipment distributed is purchased and is likely associated with methamphetamine injecting. This volatility also provides insight into drug use trends around the country.

Nonetheless, as the previous report noted, anecdote suggests that while some pharmacies may distribute significant amounts of equipment, it should not be assumed that this implies clients are completely satisfied with that outlet's service. Instead, this may be due to limited access, where the pharmacy may be the sole outlet in a given area, thereby offering little client choice despite indifferent service.

3.4 Non-NEX outlet free and purchased needles

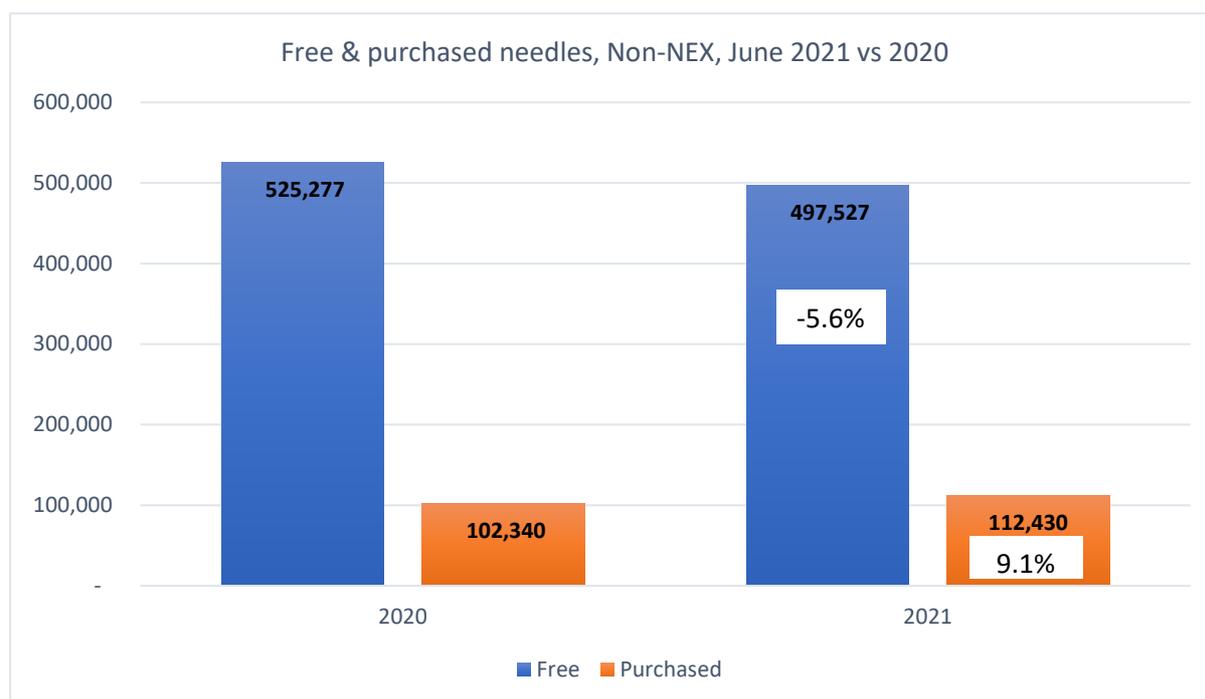


Fig. 5: Comparing distribution of needles by all non-NEX outlets, to June 2021 vs 2020

As with the programme's NEXs, the majority of needles distributed by non-NEX outlets are free (497,527 - 81.6%), although by volume this was down by 5.6% compared with the previous year. By contrast, equipment purchased from pharmacies and alternate outlets increased over the same period by 9.1% (10,790 units) compared with 2020 (Figure 5). Overall this represents a 17,000-unit reduction for all needles distributed via pharmacies/alternate outlets compared with the preceding reporting period.

4. Combined (free and purchased) NEX and non-NEX needle distribution for July-June 21

In Figure 6 below, needle distribution for all outlets by regional trust area is shown. Pharmacy and Alternate outlet needle distribution is also described as a percentage of the total needle distribution for each region serviced by the five trusts.

4.1 Interactions between NEX and non-NEX (pharmacies and alternate) outlets regarding needle distribution

The number of pharmacies and alternate outlets also servicing clients in each area covered by regional trusts could impact on equipment distributed by dedicated exchanges (NEXs). As the previous report outlined, comparing NEX and non-NEX outlet numbers per trust region suggested that the more non-NEX outlets there were per region relative to dedicated NEX's, the greater share of distribution these outlets had. We carried out a statistical test to examine the relationship between regions' NEX and non-NEX outlet numbers, regarding outlets' share of distribution. While our test result was not statistically significant it was very close, indicating that the number of non-NEX outlets per trust region *probably* impacted on a trust's distribution.

While this relationship may be obvious (i.e. more non-NEX per region = less NEX distribution per region), understanding it statistically, allows us to avoid speculation over varying patterns of distribution. For instance, such evidence would be one challenge to the argument for population-based funding,

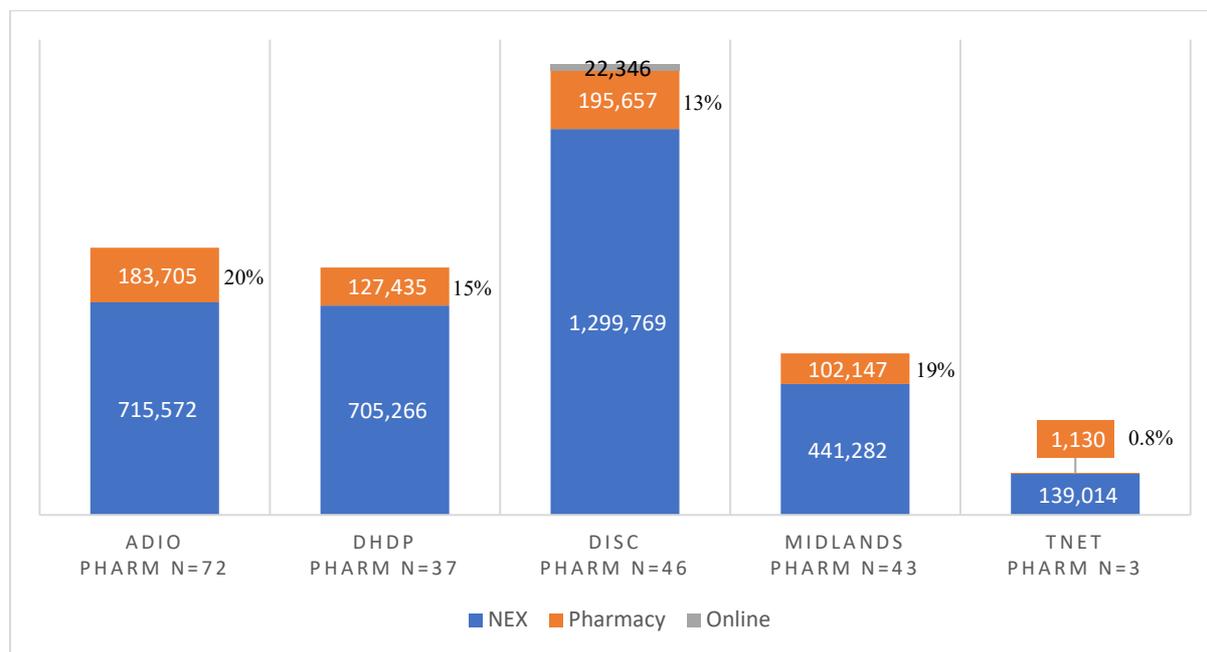


Fig. 6: Combined NEX/Pharm/Alt needle distribution by regional trust area for July-June 21

whereby a regional trust would receive a greater share of the funding pool due solely to being located in an area with a proportionately larger population than other trust regions. The most obvious example in this regard is ADIO trust in relation to servicing the Auckland region. Whilst ADIO serves a large population, the region is also serviced by a large number of pharmacies (70) and alternate outlets. The implication here is that the two ADIO NEXs in the Auckland region have their service burden offset by multiple other outlets. Additionally, it also underscores the importance of pharmacy and alternate outlets to the programme, for example, where these may be available in areas where clients do not have ready access to dedicated exchanges.

Notwithstanding the Auckland region's pharmacy / alternate outlet offset, as discussed in section 6.1 (Estimated needle coverage for New Zealand PWID), there are also alternative explanations supporting the argument *against* population-based funding per se. These relate to two aspects of population characteristics, where by certain traits of a region's population may mediate the prevalence of injecting specific to that region, in comparison to other regions. In the case of Auckland, it relates to ethnicity (i.e. higher proportions of populations with lower prevalence of injecting, such as Asian and Pacifica) and drug use behaviour (i.e. a documented population preference for oral as opposed to venous administration of drugs). These issues are taken up in greater detail in section 6.1.

However, reiterating comments from the previous report, as desirable as ready access to other outlets may be, where there are no dedicated NEXs it is the latter that go beyond simply distributing injecting equipment, to instead providing clients with important harm reduction information as well as better equipment selection for a lower price. The advantages of dedicated NEXs servicing as many clients as possible are underscored with the possibility that other health services may be extended to more NEXs in the future (currently only three — Auckland, East St.; the Community Clinic associated with Christchurch's Rodger Wright Centre; and the Dunedin NEX (DIVO), having a one-day a week health clinic staffed by the programme's only medical doctor — provide direct access to clinical staff).

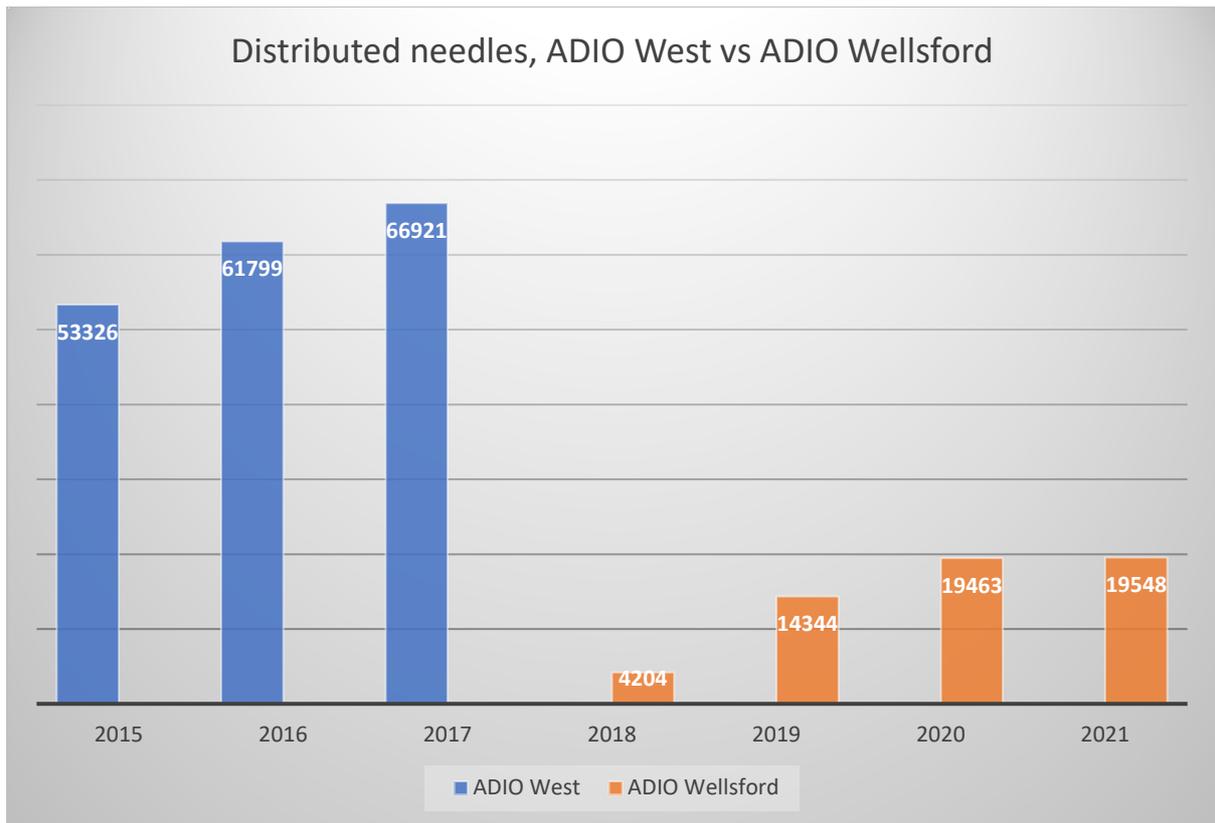


Fig. 7: Comparing distribution of free needles, ADIO West vs Wellsford (2015-2021)

For this reason, ensuring that NZ’s PWID have the greatest access possible to dedicated NEXs should be considered a central strategy of the NZNEP. In the case of Auckland, following the disestablishment of the ADIO West NEX in Henderson, there are effectively only two NEXs for the Auckland city and suburbs’ population. Moreover, while the Wellsford NEX has been established for three full years, as the data in *Figure 7* demonstrate,³ due to it being some distance from Auckland itself, it is unlikely to ever service the same number of clients, with the most recent figures suggesting Wellsford distribution has plateaued. Consequently, as discussed in the previous report, it is likely that at present Auckland is underserved by dedicated NEX access in the areas captured by Auckland city and suburbs. Given the preference that PWID consistently demonstrate for their needs being met by dedicated NEXs, consideration should perhaps be given to establishing or reestablishing a third NEX in the Auckland city area.

4.2 Breakdown of needle distribution by regional trust areas

In *Section 4.2* data for needle distribution by regional trusts are displayed. *Figures 8-12* show distribution for NEXs and non-NEX outlets (pharmacies and alternate outlets) by free and purchased equipment. Data are generally self-explanatory and require little interpretation, offering a snapshot of distribution per-trust region for all outlets.

³ In *Figure 7* data for ADIO West and Wellsford are partial for 2017 and 2018, with the former closed in September 2017 and the latter opened in June 2018

4.2.1 ADIO NEXs and Pharmacy / Alternate outlets

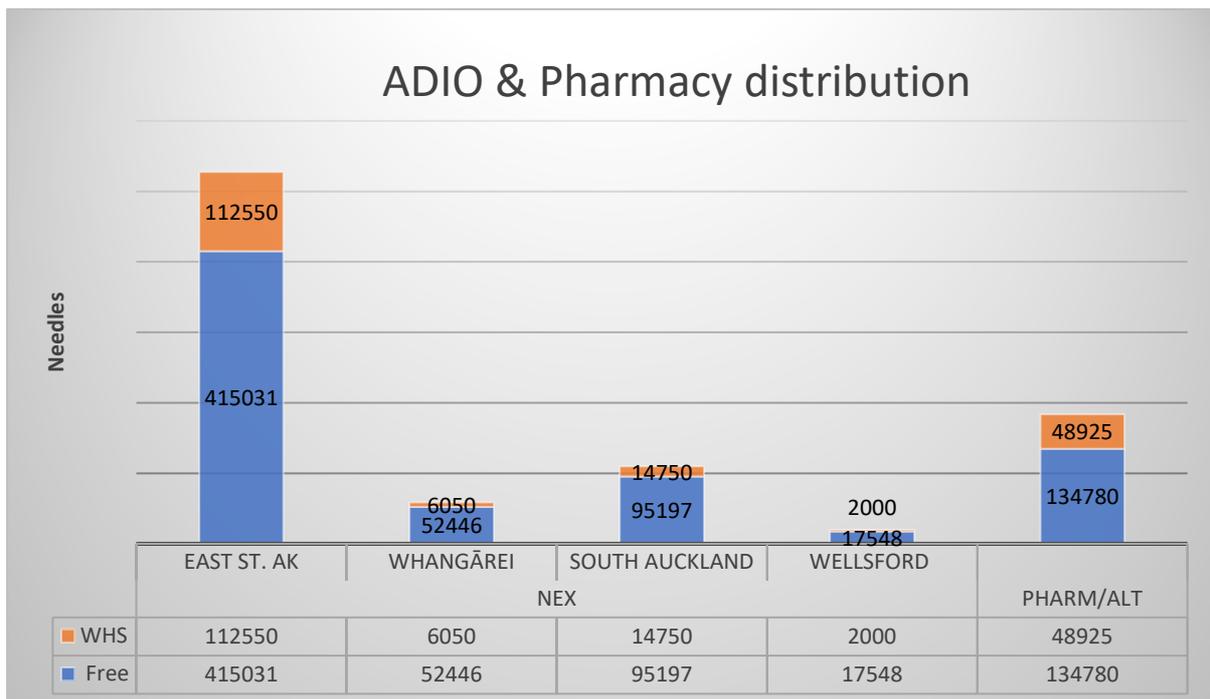


Fig. 8: ADIO and related pharmacy / alternative outlets' combined distribution, July-June 21

4.2.2 Midlands NEXs and Pharmacy / Alternate outlets

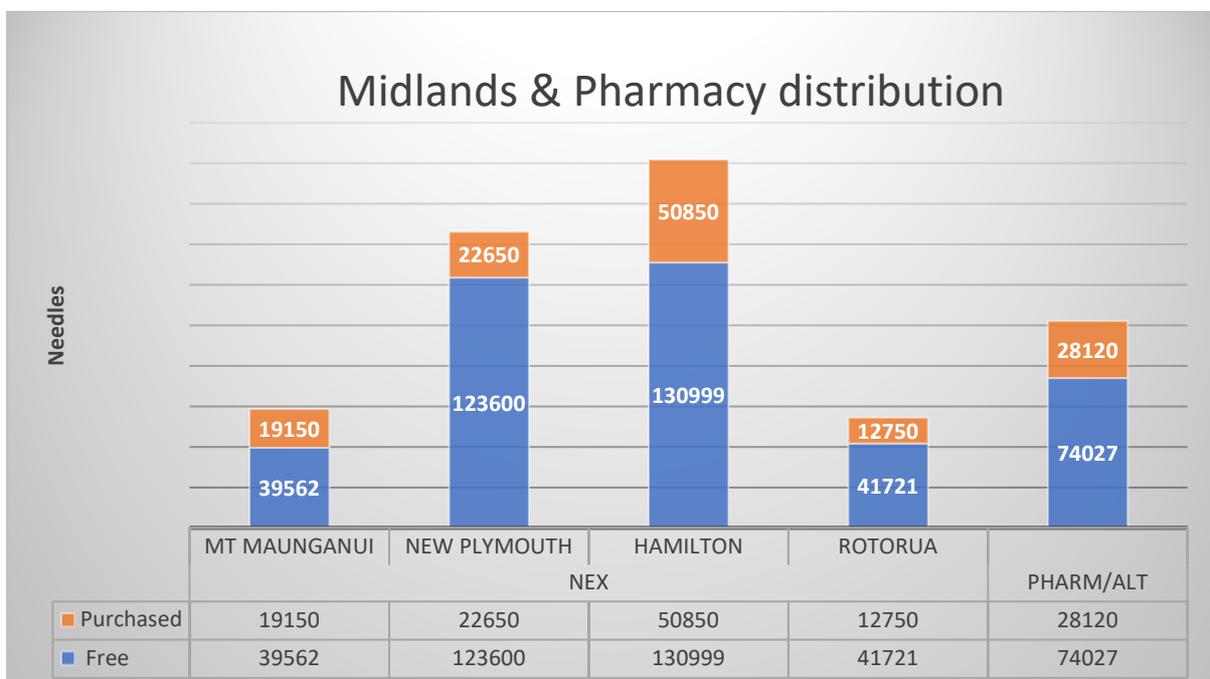


Fig. 9: Midlands and related pharmacy / alternative outlets' combined distribution, July-June 21

4.2.3 DHDP NEXs and Pharmacy / Alternate outlets

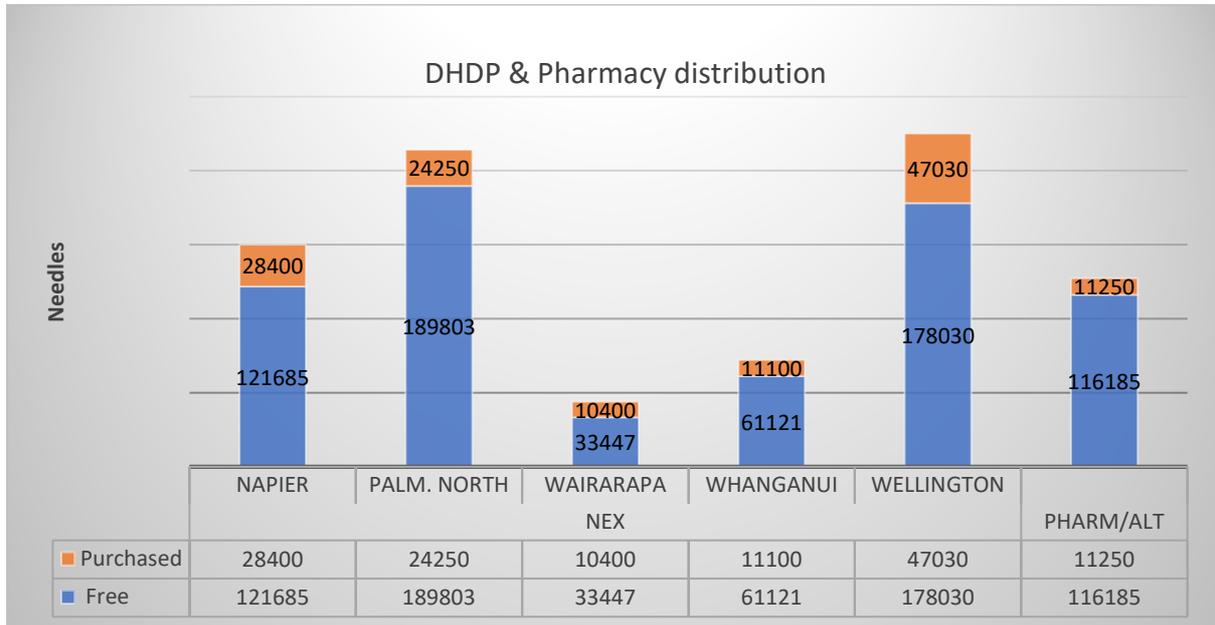


Fig. 10: DHDP and related pharmacy / alternative outlets' combined distribution, July-June 21

4.2.4 DISC NEXs and Pharmacy / Alternate outlets

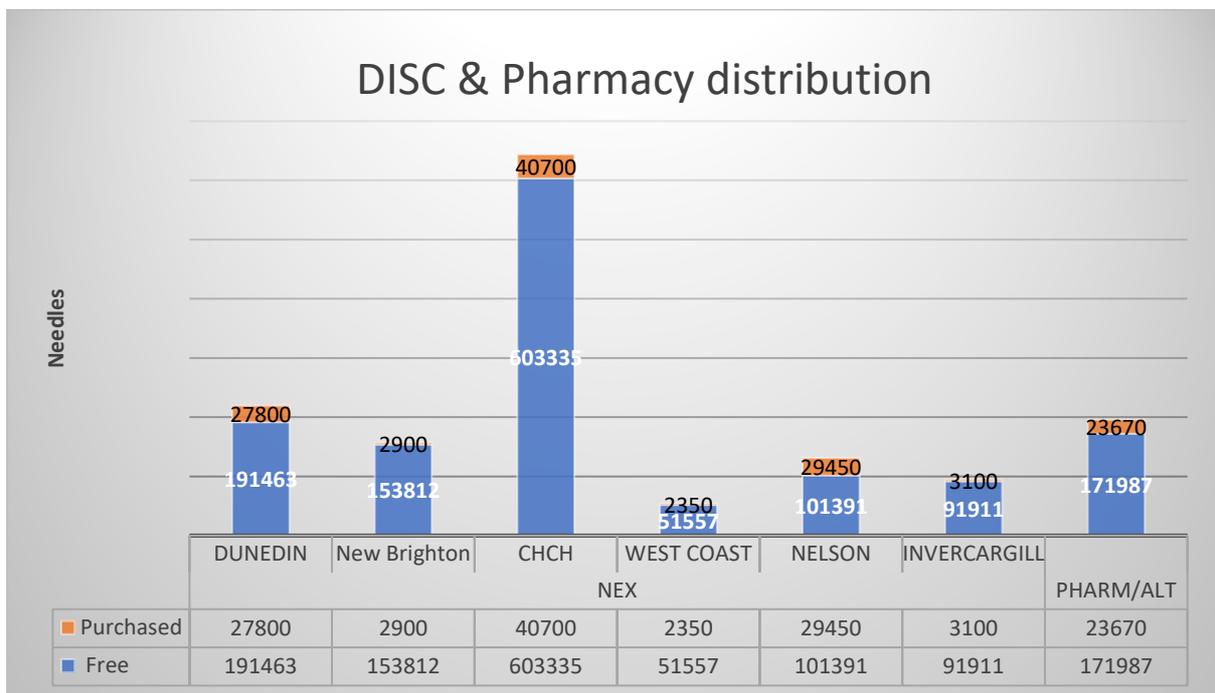


Fig. 11: DISC and related pharmacy / alternative outlets' combined distribution, July-June 21

4.2.5 TNET NEXs and Pharmacy / Alternate outlets

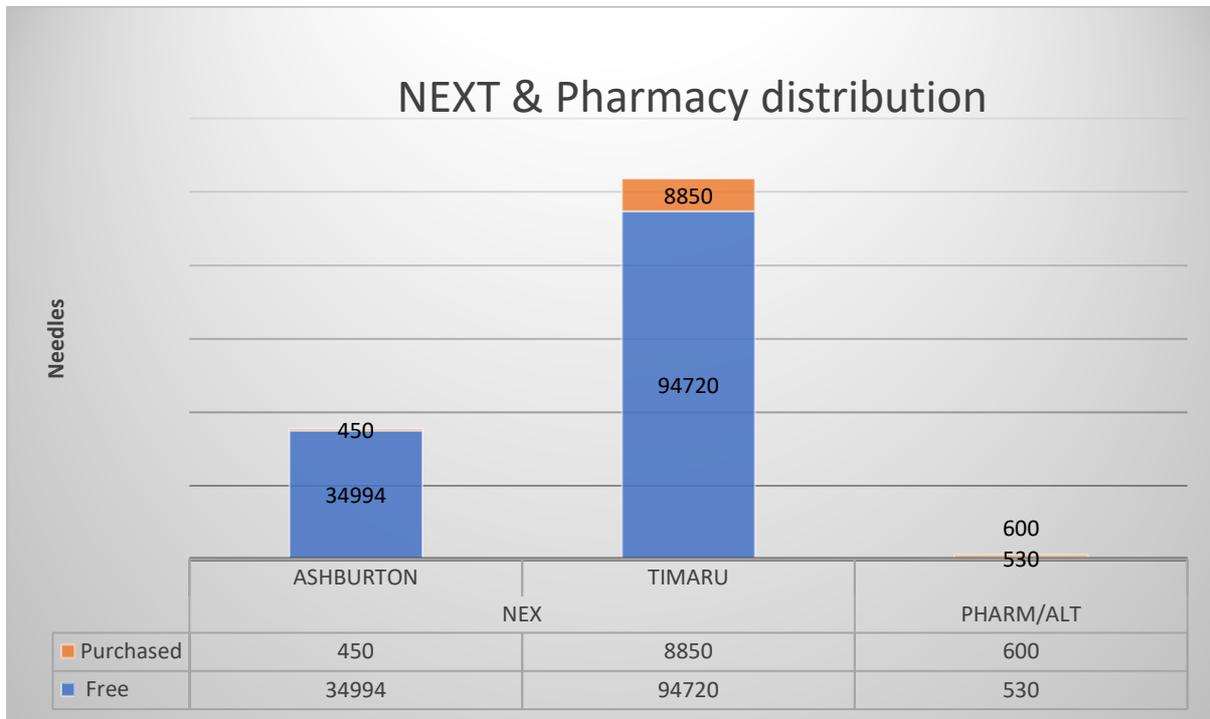


Fig. 12: TNET (Timaru and Ashburton) and related pharmacy / alternative outlets' combined distribution, July-June 21

5. Distribution of needles by electronic dispenser (ED)

As implemented in the previous report and discussed in the introduction, NEXs supplied data on the contents of their ED packs, which may vary from year to year. This has allowed a more accurate assessment of total purchased equipment data.

Slightly over half (n=14) of the 20 stand-alone NEXs have EDs, although these are not equally distributed across the regional trust areas, i.e. ADIO (1), MIDLANDS (3), DHDP (5), DISC (4) and Timaru (1). Further, the Invercargill NEX's (SHRP) ED machine has not been operational during this reporting period, leaving effectively 13 EDs across the programme.

Additionally, all equipment available by ED must be purchased, including equipment normally available free over the counter from staffed outlets.

5.1 Comparing ED needle distribution with overall purchased needles

Below, *Table 5* lists needles purchased from the 13 functioning EDs, along with their proportion of all purchased needles from their respective NEXs (excludes free needles), as well as the hours each NEX is open.

- Overall, over a third (36% or 154,968) of purchased needles from these NEXs are purchased via their EDs.

- The purchase of needles through EDs represents over 36% of all needles purchased across the counter or through EDs from all NEXs with EDs and 25% of all purchased needles, i.e. including from non-NEX outlets.

Finally, ED-purchased needles comprise 3.9% of all distributed needles (NEXs and Pharmacies/alternate outlets) and represent 5.6% of all needles distributed by NEXs with EDs.

Table 5: ED distribution of needles (disaggregated packs) including as % of NEXs' total distribution, July-June 21

NEXs	all Purchased needles	ED Needles	ED needles as % of all purchased	Weekly Hours
EAST ST, AK	113443	49654	43.8%	66
NEW PLYMOUTH	20757	4448	21.4%	47
HAMILTON	51246	19960	38.9%	49
ROTORUA	10929	8175	74.8%	29
NAPIER	23899	14210	59.5%	45
PALMERSTON NORTH	24060	7862	32.7%	49
WAIRARAPA	9443	3841	40.7%	45
WELLINGTON	48296	18162	37.6%	56.5
WHANGANUI	9414	2270	24.1%	44
NELSON	28294	10377	36.7%	41.5
CHRISTCHURCH	45637	4383	9.6%	84
DUNEDIN	23860	6948	29.1%	53.5
TIMARU	9609	2544	26.5%	44.5
Totals	418887	152834	36.4%	
Median			43.70%	47
Average			36.6%	50

5.2 Sale of needles by ED and hours of operation

As with the preceding reporting period, *Table 5* shows there is considerable variation in percentages of needles purchased at each ED machine (i.e. 9.6 - 74.8%) and in the hours that NEXs with ED machines are open, i.e. 29 hours (Rotorua) to 84 hours (Christchurch). One possible explanation for the variation in percentages of needles purchased across EDs is that NEX opening hours impact on ED sales. This was tested statistically and shows a very weak negative correlation, i.e. the longer the hours, the smaller the percentage of sales from the ED, relative to that outlet's total sales. However, because the correlation is not statistically significant, while we cannot definitely state that shorter opening hours increase ED sales, they probably have some association with it.

6. Availability of needles per PWID

One important indicator of the efficacy of needle and syringe programmes is the level of equipment coverage, particularly for sterile needles. An accepted measure of this is the number of needles used

by individual PWID per year. Coverage is defined as ‘high’ by UNAIDS if distribution exceeds 200 needles/syringes per PWID per year, although WHO has set a target of 300/PWID/year by 2030 (UNAIDS, 2020).

6.1 Estimated needle coverage for New Zealand PWID

Table 6: Annual needles distribution per PWID clients, per DHB region, July-June 21

Regions	DHB Regions	Resident population ≥15 years (% of NZ population)	Estimated injecting population (0.3-0.45%) ⁴	Needles/PWID/year (% national distribution) 2020
		1	2	3
Northern	Auckland, Northland	1,561,458 (37.6%)	4684-7026	127-192 (22.7%)
Midlands	Bay of Plenty, Gisborne, Rotorua, Ruapehu, Taranaki, Taupo, Tauranga, Waikato	797,339 (19.2%)	2392-3588	151-227 (13.8%)
Central	Hawkes Bay, Hutt Valley, Manawatu, Wairarapa, Whanganui, Wellington	822,256 (19.8%)	2466-3700	232-338 (21.8%)
Southern	Nelson/Marlborough, Canterbury, South Canterbury, Otago, Southland, West Coast	971757 (23.4%)	2915-4373	374-561 (41.7%)
Totals or range		4,152,810 (100%)	12,458-18,687	221-330 (100%)

Providing an accurate estimate of needle coverage is a difficult exercise due to the illegality of injecting drug use. Producing a NZ estimate is further complicated by the lack of accurate data on numbers of NZ PWID accessing NZNEP outlets, which protect clients’ anonymity. Currently estimates are based on national survey data from 2013 (Noller & Henderson, 2014) and a more recent on-going scoping exercise (Noller, 2020).

Consequently, the estimates listed in *Table 6* and *Figure 13* below (black lines show 200 and 300 level coverage for the averaged estimate of PWID per region) rely in part on a previously used NZ estimated range of 0.3-0.45% of those aged 15 years and over.⁵ *Table 6* figures are derived from dividing estimated injecting numbers (PWID) in each region into that region’s total population (e.g. the Northern Region’s 4684-7026 PWID average 127-192 needles each, per annum). This gives an estimated range of PWID numbers for the four NZ DHB regions, which generally map onto regional trust areas, with the exception of the TNET cluster, which in *Table 6* and *Figure 13* is subsumed in the Southern region for the purpose of this analysis.

While the calculation is not optimal, it does indicate some interesting patterns. There is a range of estimated coverage, e.g. the low range is from 127 needles/PWID/year (Northern) to 374 needles/PWID/year in the Southern region. Given that significant actual differences in equipment

⁴ A recent more rigorous analysis by Kwon et al., (2019) suggests a point estimate of 0.39% of the Australian population would inject drugs. We have employed the previous NZ estimated range of 0.3-0.45% to capture this Australian estimate, which may be similar to NZ.

⁵ *Figure 13* appears different from that of the preceding report due to using *averaged* numbers of needles per PWID per year, rather than the 2020 report’s *lowest estimate*.

access for PWID across regions would be unlikely, other explanations are required, with the most obvious being that the prevalence of injecting varies across regions.

Two interacting variables potentially explaining these variances are differing population make-up across regions and differing routes of drug administration. Regarding population, while Auckland is clearly the most populous region its proportionately large Asian (28% in 2018) and Pacifika (15.5% in 2018) populations (RIMU, 2020) have the potential effect of reducing PWID numbers as both these ethnicities have lower rates of injecting than NZ Europeans (Ministry of Health, 2010). Interestingly, according to Ministry of Health data (2021a,c), both Auckland and Waitematā DHB regions (combined population 1,122,760) have a lower proportion of Māori (8.2% and 10.2% respectively) compared with the national average (16.6%). This is also relevant to explaining PWID prevalence as Māori have higher rates of injecting, along with NZ Europeans (Ministry of Health, 2010). By contrast NZ Europeans predominate in Christchurch (81.2%) compared to Auckland (59.5%; RIMU, 2020) and while Māori (9.8%) have a lower proportion in Christchurch than the national average, their numbers are similar to those in Auckland and Waitematā (Ministry of Health, 2021b).

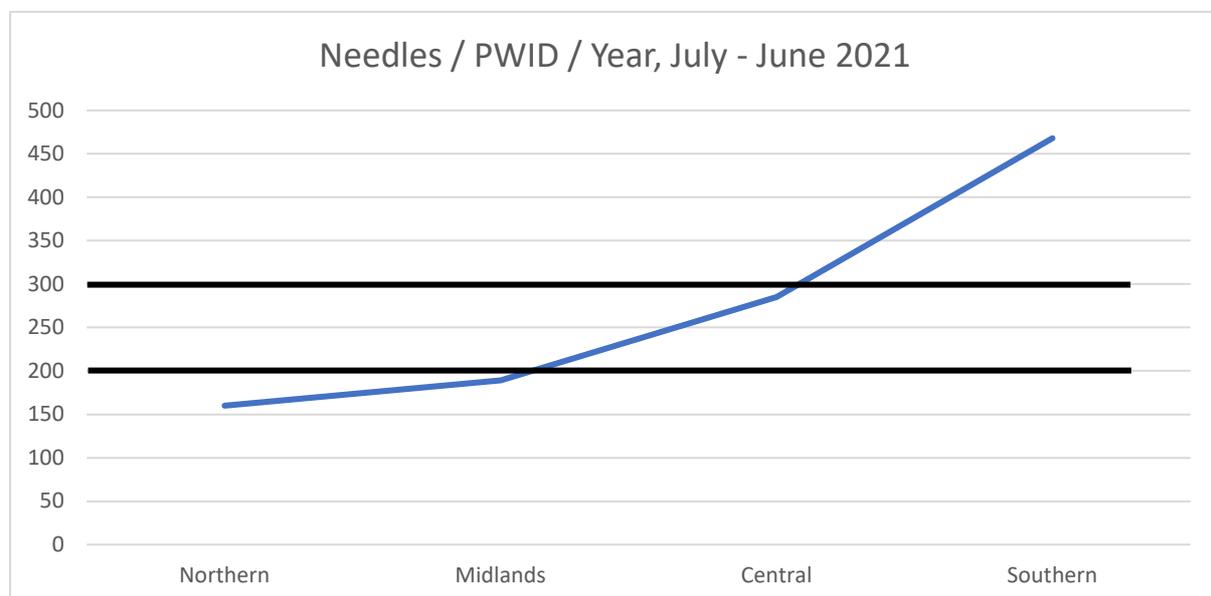


Fig. 13: Benchmarking NZ annual PWID needle consumption (averaged estimates) against WHO levels, by DHB Region

Similarly, regarding Auckland, use of potentially injectable drugs and their actual route of administration, appears different to elsewhere in New Zealand. For example, anecdotal reports suggest that there may be a higher incidence of the oral use of injectables in Auckland, including over-the-counter (OTC) and prescribed drugs (Personal communication between Geoff Noller and Emma Schwartz [Psychiatrist at Waitematā District Health Board]; October 2018). Additionally, it has been suggested that while some drugs, specifically methamphetamine, may be administered by smoking, this option does not exist for others such as opioids (heroin being the exception, though in New Zealand it is much less prevalent than other opioids). For this reason, if an area has a greater prevalence of a potentially smokable drug, the proportion of those injecting it may potentially be lower (Personal communication between Geoff Noller and Anna King, Abbvie Pharmaceuticals; September 2021).

Collectively these explanations point to a situation whereby the Northern and especially the Auckland population may have proportionately less PWID than other regions of the country despite its much larger population. As with earlier observations (e.g. section 4.1), taking such factors into consideration is important in informing the validity of programme resourcing strategies such as population-based funding.

7. Other equipment: syringes and filters

While needle distribution remains the primary focus of this report and a benchmark for programme efficacy, the significance of other equipment, notably syringes and filters, should not be ignored.

7.1 Syringe size, types and uses⁶

While the programme provides multiple syringes types, i.e. 1ml, 3ml, 5ml, 10ml, 20ml, 30ml and 50ml, currently only the 3ml syringes are provided free through the '1-4-1' scheme.

Different sized syringes may be used for different purposes including injecting different drugs, particularly where these may be small volumes, e.g. the 1ml syringe and needle, and 1ml insulin syringe which comes with needle attached. These may be preferred by methamphetamine injectors, due to the smaller volumes of prepared drugs that are injected. Larger syringes, particularly the 10ml to 50ml sizes may be used for injecting methadone as the volume injected is greater, especially in regions where OST pharmacies are encouraged to dilute methadone doses.

During 2020, in partnership with Auckland University-based researcher, Dr. Rhys Ponton, NEST undertook a study of injecting practices (Ponton et al., 2020). Along with safety issues, equipment use was also examined. *Figure 14* displays proportions of those injecting various drugs (n=101), who reported using specific equipment. It will be seen, for example, that 1ml syringes (22%) and insulin syringes (29%), were used exclusively by methamphetamine injectors. However, over a third of meth injectors (37%) also reported using 3ml syringes, perhaps because these are available free and likely also as a matter of preference. Equipment being available free was an important factor determining equipment choice that was frequently identified by participants in the study, across drug types. By contrast, however, although methadone is a commonly injected drug, most (79%) of the study's methadone injectors preferred purchasing larger syringes (5-20ml) rather than using the free 3ml syringes (15%).

The choice of syringe and the reasons mediating this, for instance the cost of non-subsidised syringes, differential volume of injected drugs (e.g. methadone is a liquid and requires a larger syringe, commonly accompanied by the use of a butterfly to physically manage handling the larger syringe), has implications for harm reduction. For example, NEP clients commonly report significant reuse of larger syringes, which are relatively expensive. This practice is acknowledged anecdotally, with NEP staff describing receiving returned larger syringes with barely visible dosage markings, due to constant reuse (Personal communication between Geoff Noller and Belinda Read, Regional Manager, TNET, October 2019).

⁶ The text for this section is largely unaltered from the previous report. The section has been retained to contextualise the syringe-related data that follows, specifically *Figure 14*.

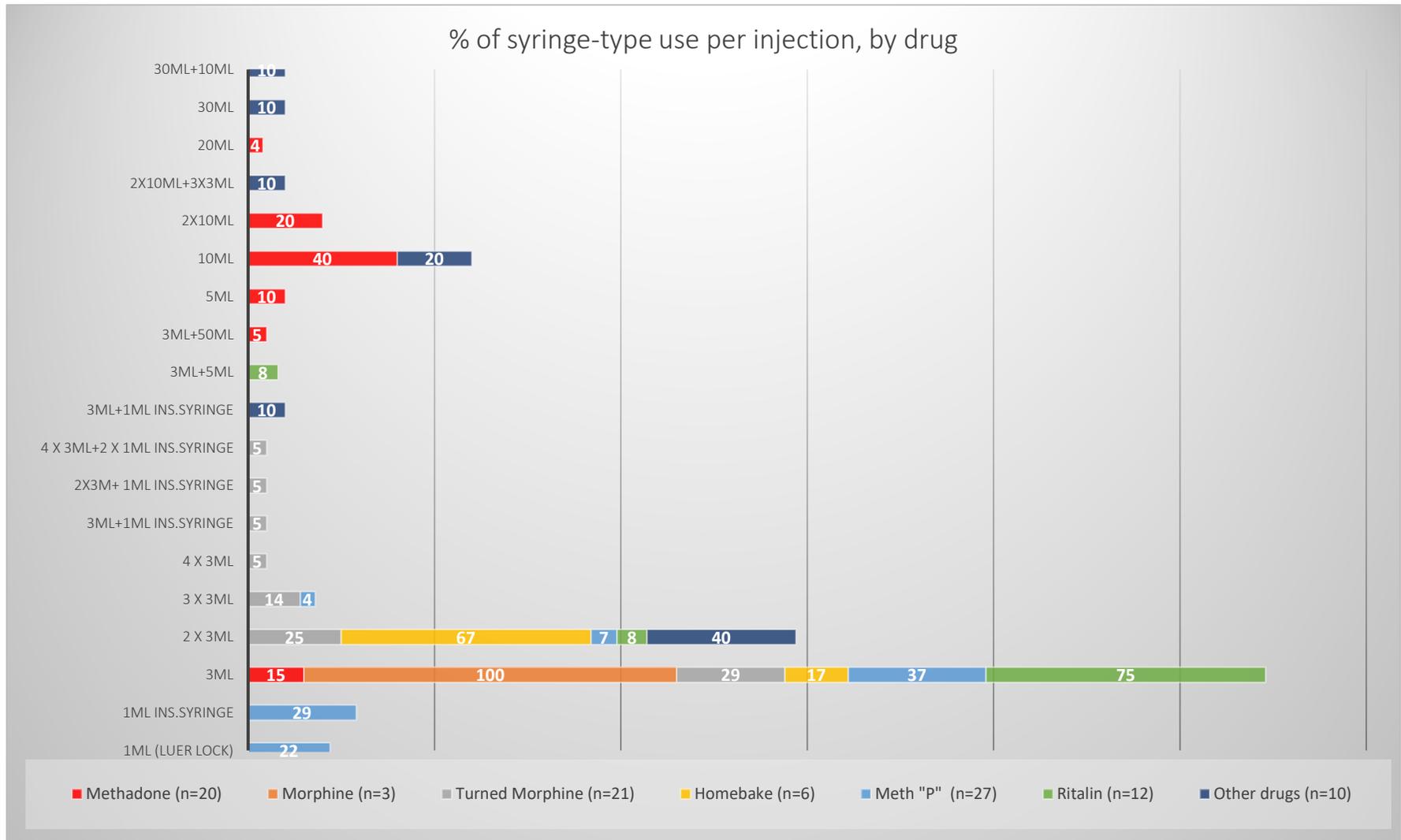


Fig. 14: Percentage of PWID injecting various drugs, reporting use of specific syringes per drug type
 Source: Ponton et al., 2020

7.2 Distribution of syringes during 2020

Table 7: Distribution of all syringes by outlet type and size during July-June 21

	0.5ml	1ml*	3ml Free	3ml Purchased	5ml	10ml	20ml	30ml	50ml	Total
NEXs	8,664	243,977	1,787,821	90,875	20,101	61,658	7,641	4,124	1,427	2,226,288
Pharmacy/Alt.	-	24,045	491,250	45,680	6,410	20,390	2,119	802	36	590,732
Online	750	4,914	-	5,278	446	718	135	278	136	12,655
	9,414	272,936	2,279,071	141,833	26,957	82,766	9,895	5,204	1,599	2,829,675

*1ml and 1ml insulin syringes combined

Table 7 lists distribution figures of all syringe sizes provided by the NZNEP. These are tabulated by outlet type and syringe size.

An obvious point is that the number of syringes distributed by the programme is far fewer than the number of needles (Table 1), respectively 2,829,675 vs 3,903,942, i.e. distributed syringes comprise only 72.5% of distributed needles. The most likely (and recognised by the programme) explanation for this is that PWID may require more than one needle to successfully inject their drugs (“get their shot away”), as well as using multiple needles to prepare their injections. While a portion of injections involve multiple syringes (e.g. for mixing drugs), it is likely that syringe numbers more closely correlate with injection episodes.

2.83 million Syringes vs 3.9 million Needles

7.3 Syringe distribution by regional trust

On the following page Table 8 reports syringe distribution by size, across regional trusts. In all cases it is clear that the free 3ml syringes distributed free under the 1-4-1-scheme are the largest distributed item. Additionally, generally the purchased 1ml syringes are the second most commonly distributed syringes. This is most obviously the case for the ADIO NEXs, with that trust distributing over 142,000 1ml syringes during July-June 21, almost 100,000 units more than the next regional trust, Midlands (44,336 units). Two trusts not following this pattern are MIDLANDS and the TNET NEXs (Timaru and Ashburton), whose second most ‘popular’ syringe was the purchased 3ml. This latter was the third most popular syringe for ADIO, MIDLANDS and DISC, while the 1ml syringe was third most popular for DHDP and TNET. The least popular syringe was the 50ml for ADIO and MIDLANDS, and the 0.5ml for DHDP, DISC and TNET.

As noted in the previous report, the NZNEP has recently proposed the upscaling of free equipment to the Ministry. Harm reduction potential informs the choice of proposed products, augmented by a combination of currently most commonly purchased items within the NZNEP, data from the above noted Safer Injecting Study (Ponton et al., 2020), data from previous NZNEP research (Noller & Henderson, 2014), international literature (Stein et al., 2020; Public Health England, 2021) and first-hand knowledge of injecting drug use in NZ by peer staff. Prioritised products include: all syringes, butterflies (23g, 25g, 27g), sterile water (10ml), Maxi-cup cooker (larger size - Steri-cup), wheel filters (0.2, 0.45, 0.8, 1.2, & 5.0 micron) and latex tourniquets.

Table 8: July-June 21 distribution of all syringe sizes, for NEXs, grouped by regional trusts

	0.5ml	1ml*	3ml Free	3ml Purchased	5ml	10ml	20ml	30ml	50ml	Total
EAST ST	3,231	109,879	226,857	13,568	2,557	7,734	434	242	366	364,868
SOUTH AK	2,251	23,682	35,279	449	616	1,560	117	83	25	64,062
WELLSFORD	180	2,352	9,123	20	15	356	10	5	9	12,070
WHANGĀREI	-	6,803	25,877	-	436	1,524	369	185	37	35,231
	5,662	142,716	297,136	14,037	3,624	11,174	930	515	437	476,231
NAPIER	-	7,876	91,588	9,433	1,421	2,541	150	332	6	113,347
PALMERSTON NTH	4	6,153	116,578	3,675	1,529	6,184	780	513	22	135,438
WAIRARAPA	-	833	28,362	1,525	1,138	2,381	32	21	24	34,316
WELLINGTON	-	10,327	123,159	17,044	2,627	8,804	204	930	62	163,157
WHANGANUI	1	1,181	59,937	648	713	1,812	98	36	6	64,432
	5	26,370	419,624	32,325	7,428	21,722	1,264	1,832	120	510,690
MT MAUNGANUI	-	7,925	23,697	2,630	967	1,502	272	26	24	37,043
NEW PLYMOUTH	-	5,393	92,953	3,115	696	3,555	862	103	-	106,677
HAMILTON	2,147	24,416	82,783	8,704	1,292	4,163	1,221	420	173	125,319
ROTORUA	541	6,602	30,177	2,641	220	1,605	63	-	-	41,849
	2,688	44,336	229,610	17,090	3,175	10,825	2,418	549	197	310,888
NELSON	298	2,312	59,954	4,701	1,280	5,611	996	263	55	75,470
CHRISTCHURCH	10	21,118	386,267	10,877	1,278	2,300	497	374	228	422,949
NEW BRIGHTON	1	1,442	103,990	506	181	648	115	100	51	107,034
INVERCARGILL	-	1,935	62,623	82	316	708	63	64	-	65,791
DUNEDIN	-	2,221	113,502	8,742	1,474	5,288	685	154	298	132,364
W.C. MOBILE	-	289	21,115	-	870	2,466	330	31	-	25,101
	309	29,317	747,451	24,908	5,399	17,021	2,686	986	632	828,709
TIMARU	-	1,163	72,390	2,472	467	807	320	129	39	77,787
ASHBURTON	-	75	21,610	43	8	109	23	113	2	21,983
	-	1,238	94,000	2,515	475	916	343	242	41	99,770

*1ml and 1ml insulin syringes combined

7.3.1 Distribution of purchased 1ml syringes

Below, *Table 9* shows the purchases of 1ml insulin syringe (fix needle attached) and 1ml syringes (no needle). The table shows the 1ml insulin syringes as a percentage of all 1 ml syringes.

As was noted previously (i.e. Section 7.1 and *Figure 14*), 1ml syringes generally and the insulin syringe in particular are commonly used by PWID for injecting methamphetamine. Corrolating equipment with drug types is one means of estimating numbers of clients injecting specific drugs. These data can then be compared across regions and individual NEXs.

Understanding the ‘popularity’ of specific equipment also facilitates the reviewing of equipment supply, e.g. where a particular item may be so popular that supplying other versions of it could be considered redundant.

It is evident from *Table 9’s* data that 1ml insulin syringes are a popular type of 1m syringe, with clients from multiple NEXs (Napier, Wairarapa, New Plymouth, Rotorua, New Brighton, Dunedin, Invercargill, both the TNET NEXs, Dunedin, West Coast Mobile 100%) preferring these exclusively.

Table 9: July-June 21 distribution of 1ml Insulin syringes as a percentage of all 1ml syringes

	Insulin 1ml	Total 1 ml	%
EAST ST AK	86,153	109,879	78.4%
SOUTH AK	10,741	23,682	45.4%
WELLSFORD	1,842	2,352	78.3%
WHANGĀREI	3,450	6,803	50.7%
ADIO	102,186	142,716	71.6%
NAPIER	7,876	7,876	100.0%
PALMERSTON NORTH	6,024	6,153	97.9%
WAIRARAPA	833	833	100.0%
WELLINGTON	9,652	10,327	93.5%
WHANGANUI	1,160	1,181	98.2%
DHDP	25,545	26,370	96.9%
DUNEDIN	2,221	2,221	100.0%
NELSON	2,256	2,312	97.6%
CHRISTCHURCH	20,741	21,118	98.2%
NEW BRIGHTON	1,442	1,442	100.0%
INVERCARGILL	1,935	1,935	100.0%
WEST COAST MOBILE	289	289	100.0%
DISC	28,884	29,317	98.5%
MOUNT MAUNGANUI	7,839	7,925	98.9%
NEW PLYMOUTH	5,393	5,393	100.0%
HAMILTON	24,316	24,416	99.6%
ROTORUA	6,602	6,602	100.0%
Midlands	44,150	44,336	99.6%
ASHBURTON	75	75	100.0%
TIMARU	1,163	1,163	100.0%
TNET	1,238	1,238	100.0%
Online Shop	3,191	4,914	64.9%

Overall, across NEX regions the distribution of 1ml insulin syringes ranged from 78% of all 1m syringes (ADIO) to 100% of the TNET NEXs. Total distribution of insulin syringes from NEXs amounted to 200765 or 82.3% of the 243,977 1m syringes attributed to NEX regions. These data exclude the Online Shop's 1ml sales, where 64.9% of the 4,914 1ml needles purchased were 1ml insulin syringes.

Additionally, pharmacies and alternate outlets were supplied with a further 19,120 insulin syringes (all 1ml), comprising 79.5% of the total of 24,045 1ml syringes they received from NEST. The latter represents 9.6% of all 1ml syringes distributed by the programme.

In the July-June 2021 period dedicated NEXs distributed 90% of both insulin syringes and of 1ml syringes overall.

8. Wheel Filters

Table 10: July-June 2021 filter distribution, all outlets

Outlets	Filters	%
EAST ST AK	8044	16.1%
SOUTH AK	619	1.2%
WELLSFORD	129	0.3%
WHANGĀREI	1382	2.8%
ADIO	10174	20.3%
NAPIER	1519	3.0%
PALMERSTON NORTH	4015	8.0%
WAIRARAPA	160	0.3%
WELLINGTON	4867	9.7%
WHANGANUI	306	0.6%
DHDP	10867	21.7%
DUNEDIN	4115	8.2%
NELSON	1536	3.1%
CHRISTCHURCH	6997	14.0%
NEW BRIGHTON	3414	6.8%
INVERCARGILL	862	1.7%
WEST COAST MOBILE	781	1.6%
DISC	17705	35.4%
MOUNT MAUNGANUI	1421	2.8%
NEW PLYMOUTH	997	2.0%
HAMILTON	3630	7.3%
ROTORUA	675	1.3%
Midlands	6723	13.4%
ASHBURTON	315	0.6%
TIMARU	2191	4.4%
TNET	2506	5.0%
Online Shop	180	0.4%
Pharmacy	1901	3.8%
National Total	50056	

Wheel filters are a key harm reduction utensil which have the potential to impact significantly on the health of PWID, primarily due to their filtration of particulate matter from prepared drugs. Wheel filters are not available to clients free which creates a barrier to harm reduction. This is particularly relevant in New Zealand due to the injectable drug market being dominated by pharmaceutical drugs, with the result that drugs prepared for injection commonly contain impurities (including residue from drug substrates) which have the potential to contribute to a range of injection related injuries and diseases (IRIDs). There is limited knowledge about the prevalence and incidence of IRIDs among New Zealand PWID, although the 2014 seroprevalence survey (Noller and Henderson, 2014) and the safer injecting study (Ponton et al., 2020) collected a small amount of data on these. The former reported that 61% of clients surveyed in 2013 had experienced at least one IRID, while the latter noted that 48.5% of participants (n=101) had attended a health service due to an IRID at least once, with the injection of methadone and turned morphine implicated in 33 of 77 (42.8%) of reported events.

As already noted, along with most items of equipment currently available via the NZNEP, filters are not part of the free schedule of equipment and must therefore be purchased. Their cost varies across NEP outlets, with the base cost being \$1.50 per filter. However, three trusts – DISC, DHDP and TIMARU – subsidise filters, reducing the cost per unit to \$0.80. Filters are available in five sizes: 0.2, 0.45, 0.8, 1.2 and 5.0 microns. Cigarette filters are also available at no cost but provide much less adequate filtration. For the purposes of the present report filters will not be

differentiated by size and cigarette filter data will not be reported.

8.1 Filter distribution for 2020

Overall 50,056 filters were purchased by clients during the July-June 2021 reporting period, with 95.8% of these accessed via dedicated NEXs (*Table 10*). This skew against pharmacies and alternate outlets (i.e. only 1901 units purchased from these outlets) likely represents the impact of a significant price mark-up by these outlets. Anecdotal reports suggest pharmacies sell filters for between \$2 and \$4 per unit (Personal communication between Geoff Noller and Jason George, NEST Harm Reduction Lead, 10 June 2021). During this reporting period 180 (0.4%) filters were purchased via the Online Shop.

Table 10 reports filter sales for the five regional trusts and pharmacies / alternate outlets, including the outlet percentage relative to the national total. These data are interesting for at least two reasons. First and most obviously, compared with the number of injections occurring annually, filter use is minimal. For example, comparing filter distribution with that of needles (i.e. 50,000 vs 3.9 million) suggests that only 1.28% of injections are filtered. A potentially more accurate comparison between filters and syringes (the latter 2.83 million) still only increases filtering per injection to 1.76%, effectively less than 1 in 50 injections. Filtering injections, or rather the lack of doing this, is clearly a major issue in New Zealand, not the least because of our unique injecting drug use landscape which relies significantly on pharmaceutical drugs, most of which contain considerable particulate matter requiring filtration.

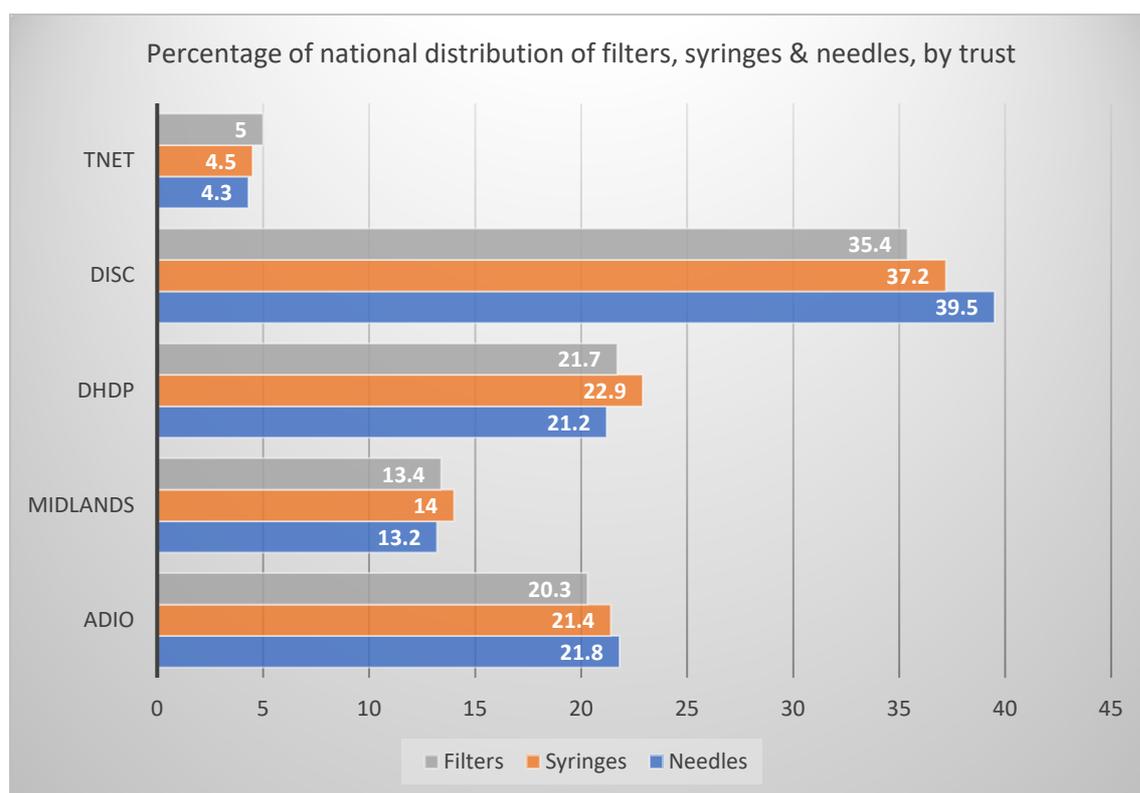


Fig. 15: Percentage comparison of filter, syringe and needle distribution across regional trusts, July-June 21

Of further interest is that the higher price of filters charged by some trusts does not necessarily translate into proportionately reduced uptake, i.e. where filters are not subsidised. This is demonstrated in *Figure 15*, which compares trusts' proportions of the national distribution of filters, syringes and needles. For example, data from two pairs of trusts, MIDLANDS (unsubsidised) and DHDP (subsidised), and ADIO (unsubsidised) and DISC (subsidised), show similar patterns of proportionality of their respective national share for filters vs syringes or needles. Additionally, while data from the remaining trust, TNET (subsidised), suggests cheaper filters might increase their purchase, i.e. a higher

proportion of filter distribution than for syringes and needles, that trust is the smallest in the country and data are therefore vulnerable to being skewed by outliers.

Notwithstanding unexplained variations in some of the preceding data, overall those describing syringe and filter use and sale, add further impetus to the recently proposed product upscale outlined above (Section 7.3).

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Appendix — Top 20 outlets by distribution

Table 11: The top 20 outlets⁷ for July-June 2021 compared with 2020 calendar year

Rank	Rank	Health Area	Outlet Location	Free	Purchased	Combined	Combined	Variance %
July-June 21	2020			July-June 21	July-June 21	July-June 21	Jan-Dec 20	21 v '20
1	1	Southern	Christchurch	603335	40700	644035	675420	-4.7
2	2	Northern	East St, Auckland	415031	112550	527581	523767	0.7
3	3	Central	Wellington	178030	47030	225060	235824	-4.6
4	5	Southern	Dunedin	191463	27800	219263	208973	4.9
5	4	Central	Palmerston North	189803	24250	214053	211455	1.2
6	6	Midlands	Hamilton	130999	50850	181849	174483	4.2
7	9	Southern	New Brighton	153812	2900	156712	130479	20.1
8	8	Central	Napier	121685	28400	150085	144618	3.7
9	7	Midlands	New Plymouth	123600	22650	146250	146739	0.3
10	10	Southern	Nelson	101391	29450	130841	127291	2.7
11	11	Northern	South Auckland	95197	14750	109947	102554	7.2
12	12	Southern	Timaru	94720	8850	103570	96179	7.6
13	13	Southern	Invercargill	91911	3100	95011	91100	4.3
14	14	Central	Whanganui	61121	11100	72221	67101	7.6
15	18	Midlands	Mount Maunganui	39562	19150	58712	51485	14
16	15	Northern	Whangārei	52446	6050	58496	57890	1
17	16	Midlands	Rotorua	41721	12750	54471	55253	1.5
18	17	Southern	West Coast Mobile	51557	2350	53907	52249	3.1
19	20	Central	Wairarapa	33447	10400	43847	43595	0.5
20	19	Southern	Ferry Rd Pharmacy	41200	150	41350	45300	9.1
			Totals for Top 20	2812031	475230	3287261	3241755	1.4
			Totals for All Outlets	3320882	583060	3903942	3866094	0.9

NB Comparison is between the financial year July 2020 – June 2021 and the 2020 calendar year

⁷ With the exception of Ferry Road Pharmacy, all outlets are dedicated needle exchanges (NEXs)