

Redemption of Nicotine Replacement Therapy (NRT)  
Quit Cards distributed through the Quitline,  
January – June 2007

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## EXECUTIVE SUMMARY

### Aims

1. To give an indication of the volume of nicotine replacement therapy (NRT) distributed through the Quitline programme, between January and June 2007.
2. To calculate the redemption rate of quit cards issued to Quitline clients.
3. To compare demographics, smoking characteristics and Quitline usage of clients who have redeemed at least one quit card.
4. To compare the redemption and the overall redeemer rates against the two preceding 6-month periods.

### Methods

Data from the Quitline database and HealthPAC<sup>1</sup> were matched to identify the rate at which quit cards have been redeemed. Characteristics of Quitline clients who have redeemed at least one quit card were compared (redeemer rate). Chi-square was used to test the statistical significance of differences at the 95% level of confidence.

### Results & Conclusions

The redemption and redeemer rates were 72% and 82%. Characteristics of redeemers and non-redeemers were compared and most findings were comparable with previous reports. One finding that may have an effect on the overall effectiveness of the Quitline service for our priority groups was the significantly low redeemer rates for Māori (72%) and Pacific clients (66%). The redeemer rates for young clients, aged under 15 (40%) and 15-24 (66%), were also low.

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<sup>1</sup> HealthPAC (Health Payments, Agreements and Compliance) was formed from the merger of Health Benefits and the Shared Support Service Group within the Ministry of Health. They are responsible, among other things, for processing claims from pharmacists.

## **Introduction**

Since 2000, The Quit Group has distributed heavily subsidised Nicotine Replacement Therapy (NRT) in the forms of patches and gum through the Quitline and the Quit Cards Programme. An exchange voucher called a quit card is issued by the Quitline Advisor or health practitioner with the quantity and strength of NRT products printed or written on it. Quit cards entitle the card holder to redeem NRT products at a participating pharmacy.

Information about the clients receiving quit cards through the Quit Cards Programme are only available to the issuing Quit Card provider but not to The Quit Group. Hence, these clients are not within the scope of this analysis. Hereafter, the report only covers quit cards that were distributed through the Quitline between January and June 2007. In 2006, the overall redemption rate and the redeemer rate were 71% and 76%.

## **Method**

Data were collected from two sources. First, quit cards (n=23,978) issued by the Quitline between January and June 2007 were identified from the Quitline database. Relevant information linked to these cards was also extracted. This included the quit card unique identification number (ID), NRT dosage, and characteristics of the card holder (i.e. Quitline clients) etc. Among the cards issued, 6% (1491) were issued as replacement cards for a different dosage, to replace lost/expired cards or to re-print due to printing problems.

A separate data file was gathered from HealthPAC. This file provided the ID of all quit cards that have been redeemed at a pharmacy, where the pharmacy had lodged a claim with HealthPAC between January and December 2007. This file contained all quit cards issued by The Quit Group both via the Quitline and the Quit Cards Programme. The original file contained 73,397 entries. A few steps were undertaken to clean the dataset. This included removing cases with an invalid quit card ID (n=697) due to inputting errors, quit cards distributed via the Quit Cards Programme (n=28,585), quit cards issued before or after January to June 2007 and duplicates (n=8,059). This reduced the number of cases to 21,339.

These two data files gathered from the Quitline database and HealthPAC were matched to identify quit cards which had been redeemed and claimed. There doesn't seem to be a time limit for pharmacies to lodge a claim to HealthPAC. Data from HealthPAC showed that some pharmacies took up to one year to lodge a claim. As HealthPAC does not have

immediate information on card redemption, this analysis reports on the redemption of cards issued some time ago, i.e. January to June 2007.

The redemption rate is the percent of the number of matching cards identified from the two datasets out of the total number of cards issued by the Quitline. Characteristics of Quitline callers who had redeemed at least one quit card were also compared. In the comparison of card redeemers and non-redeemers, each quit card holder was only counted once to avoid double counting the card holder. Card holders who have redeemed at least one card were classified as redeemers versus those who have not redeemed any cards, who were classified as non-redeemers. Redeemers and non-redeemers were thus mutually exclusive. Statistical differences of redemption rate and redeemer rate were calculated using the chi-square test, at the 95% level of confidence.

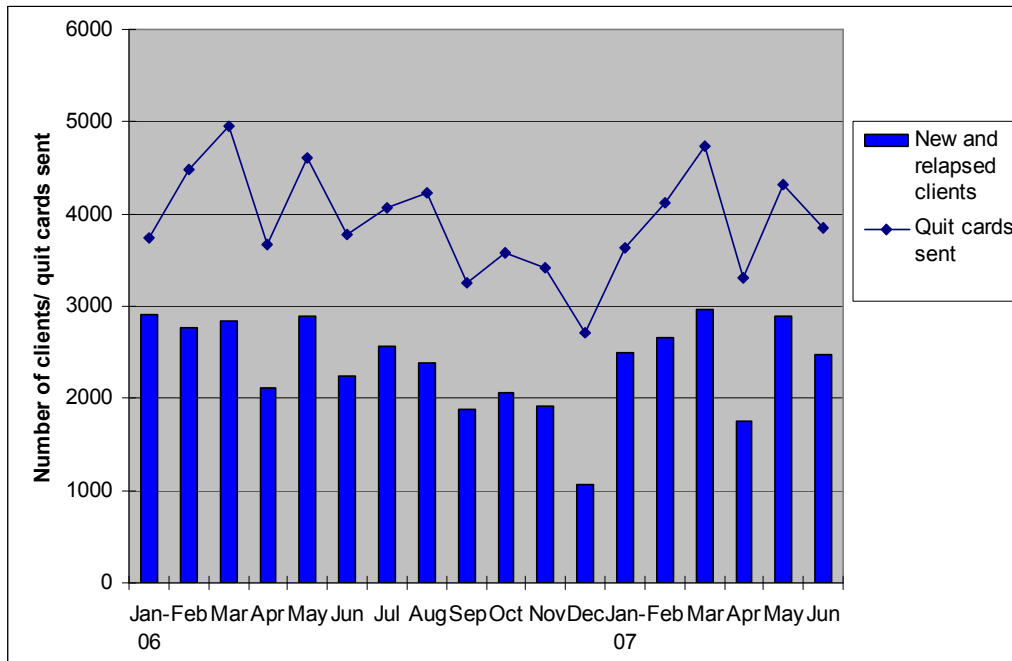
## **Results**

For comparison purposes, data from 2006 are included in this report. During the period of January to June 2007, a total of 23,978 quit cards were issued by the Quitline. The number of quit cards sent varied each month (Figure 1). The number of cards sent between January and June 2007 was similar to the same 6-month period in 2006 (Table 1). The number of cards sent roughly reflected the number of new and relapsed clients registering with the Quitline that month and the previous two months<sup>2</sup>.

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<sup>2</sup> For the time period of this analysis a typical Quitline programme involves 8-weeks worth of NRT products issued to each client in two cards. The first card is issued during the initial phone call and that the second card is issued upon a follow-up call carried out approximately 3-6 weeks after the initial call. Sometimes, a third discretionary card is issued when a client needs extra NRT to help with their quitting. This changed in October 2007 when two cards (and sometimes three if there is co-therapy) are issued during the first incoming phone call.

Figure 1: Number of new and relapsed registered clients and quit cards sent, January 2006 – June 2007

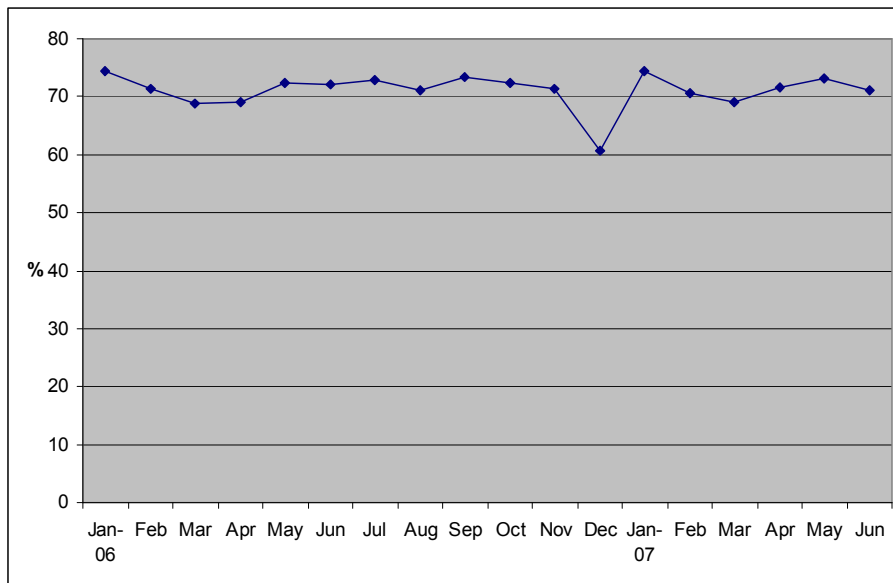


The overall redemption rate of cards issued in the first six months of 2007 was 72% (Table 1) and the monthly redemption rate in this time period ranged from 69% to 74% (Figure 2). The rate was very similar to 2006.

Table 1: Number and redemption rate of exchange cards distributed

	Jan-Jun 2006	Jun-Dec 2006	Jan-Jun 2007
Total cards issued	25,195	21,258	23,978
Total cards redeemed	17,963	15,030	17,154
Redemption rate	71.3%	70.7%	71.5%

Figure 2: Redemption rate of quit cards issued, January 2006 – June 2007



Over 60% of quit cards distributed by the Quitline entitle the card holders to patches. Most clients who are highly dependent on nicotine receive combination-therapy (co-therapy). They receive two quit cards concurrently. One card is for a high-strength patch and the other card is for gum which is used by the clients as a top-up when needed. The redemption rate of cards for both patches and gum is the highest at 75%, followed by patches only at 73% and gum at 63% (Table 2). The redemption rates are significantly different between these three groups.

Table 2: Type of NRT

	Redemption %
Patches n=15,073	72.5
Gum n=3,948	62.9
Both n=4,957	75.4
Total n=23,978	71.5

Among all cards sent between January and June 2007, 37% were sent to clients who have not received a quit card from the Quitline previously<sup>3</sup>. The second card was significantly less likely to be redeemed than other cards (Table 3).

<sup>3</sup> These callers may or may not have received a quit card from a Quit Card provider through the Quit Cards Programme.

Table 3: Number of cards ever issued by the Quitline

	Redemption %
1 Card n=8,977	74.0
2 Cards n=5,575	63.2
3 Cards n=3,448	71.5
4+ Cards n=5,978	75.8
Total n=23,978	71.5

The next part of the analysis focuses on the characteristics of Quitline clients who have redeemed a quit card. Clients who were sent a card between January and June 2007 were categorised into two mutually exclusive groups (i.e. a client can only be in one group): redeemers or non-redeemers. Redeemers are those who redeemed at least one of the cards they received, and non-redeemers are those who did not redeem any cards issued between January and June 2007. The percent of clients who were a redeemer is 82% (aka redeemer rate), suggesting a high proportion of clients redeemed at least one card they received (Table 4). The redeemer rate has been sustained at over 80% since 2006.

Table 4: Number of clients issued quit card and redeemer rate

	Jan-Jun 2006	Jun-Dec 2006	Jan-Jun 2007
Total clients	15,916	13,048	15,018
Redeemer rate	80.8%	80.6%	81.5%

Tables 5-14 present the characteristics of redeemers, including demographic and smoking characteristics and their usage of the Quitline service in the past.

Ethnicity is prioritised by Māori, Pacific people, and non-Māori non-Pacific. Māori and Pacific people were significantly less likely to redeem their cards than their non-Māori non-Pacific counterparts (Table 5). The proportion of Pacific callers who have redeemed at least one card was the lowest, at 66%. However when comparing this figure to the same six-month period in 2006, the rate for Pacific callers has improved, from 62%<sup>4</sup>. Tables 6 and 7 show there was no gender difference in the redeemer rate, in both the overall cardholder population and in each ethnic group.

<sup>4</sup> The Quit Group (2007). *Redemption of Nicotine Replacement Therapy (NRT) Quit Cards distributed through the Quitline, January – June 2006.*

Table 5: Ethnicity

	Redeemers %
Māori n=3,612	71.8
Pacific n=581	66.3
Non-Māori non-Pacific n=10,825	85.6
Total n=15,018	81.5

Table 6: Gender

	Redeemers %
Male n=6,720	81.6
Female n=8,294	81.5
Unidentified n=4	25.0
Total n=15,018	81.5

Table 7: Ethnicity and Gender<sup>5</sup>

		Redeemers %
Māori	Male n=1,318	71.4
	Female n=2,295	72.1
Pacific	Male n=301	64.8
	Female n=280	67.9
Non-Māori non-Pacific	Male n=5,101	85.2
	Female n=5,721	85.9
Total	Male n=6,720	81.6
	Female n=8,294	81.5

There was a positive relationship between redeemer rate and age, showing that the older the caller was, the more likely he/she was a redeemer (Table 8). Compared with the same 6-month period the previous year, the redeemer rate for <15 year-olds in 2007 was much lower (40%) than in 2006 (83%). However, it is important to point out that in both reporting periods the sample size for this age group was very small<sup>6</sup>.

<sup>5</sup> Quitline callers with an unidentified gender are excluded from this table and the associated chi-square tests.

<sup>6</sup> The Quit Group (2007). *Redemption of Nicotine Replacement Therapy (NRT) Quit Cards distributed through the Quitline, January – June 2006*.



Table 8: Age

	Redeemers %
<15 n=5	40.0
15-24 n=2,458	66.2
25-44 n=7,740	82.2
45-64 n=4,082	87.8
65+ n=713	91.0
Unidentified n=20	80.0
Total n=15,018	81.5

The redeemer rate by District Health Boards (DHBs) varied between 64% and 84%. The DHB with the lowest redeemer rate was Counties Manukau DHB (64%), and the one with the highest redeemer rate was West Coast DHB (84%).

Table 9: District Health Board

	Redeemers
	%
Northland n=666	78.1
Waitemata n=1,736	82.6
Auckland n=1,218	78.8
Counties Manukau n=1,383	76.1
Waikato n=1,341	79.1
Bay of Plenty n=843	82.8
Lakes n=470	77.2
Tairāwhiti n=115	76.5
Taranaki n=381	83.2
Hawke's Bay n=683	83.7
Whanganui n=293	79.9
Mid Central n=581	80.4
Wairarapa n=157	86.6
Capital and Coast n=941	82.9
Hutt Valley n=659	83.8
Nelson Marlborough n=426	84.7
West Coast n=178	90.4
Canterbury n=1,550	84.1
South Canterbury n=176	85.2
Otago n=765	85.8
Southland n=363	81.8
Unidentified n=93	82.8
Total n=15,018	81.5

The next few tables present the smoking characteristics of redeemers. In Table 10, callers were grouped by the type of tobacco they normally smoke; tailor-made cigarettes only, roll-your-own (RYO) only, a mix of tailor-made and RYO, and Other (i.e. cigar, pipe, or any combination of different tobacco type except for tailor-made and RYO). Callers who smoked a combination of tailor-made and RYO were significantly less likely to redeem any cards, while callers belonging to the Other category were more likely to redeem at least one card.

Table 10: Tobacco type

	Redeemers %
Tailor-made cigarettes n=7,164	83.8
Roll-your-own (RYO) n=6,214	80.8
Both Tailor-made and RYO n=1,407	71.6
Other n=57	89.5
Unidentified n=176	86.9
Total n=15,018	81.5

Tables 11 and 12 present the level of nicotine dependency of redeemers. Both measures (time to first cigarette after waking and intensity of inhaling) show there was no significant difference in redeemer rate.

Table 11: Time to first cigarette after waking

	Redeemers %
Within 30 mins from waking n=11,028	81.8
30 mins or more from waking n=3,905	80.6
Unidentified n=85	87.1
Total n=15,018	81.5

Table 12: Intensity of inhaling

	Redeemers %
Heavily n=6,228	80.7
Moderately n=7,505	82.3
Lightly n=1,181	80.1
Unidentified n=104	87.5
Total n=15,018	81.5

Relapse is a normal phase of the quitting process. Therefore, over half of clients in this sample were repeat users of the Quitline (56%). The redemption data suggests that repeat clients were significantly more likely to redeem at least one quit card than those first time clients (Table 13).

Table 13: First time or repeat clients

	Redeemers %
First time clients n=6,573	75.5
Repeat clients n=8,445	86.2
Total n=15,018	81.5

The number of years lapsed between when clients first registered with the Quitline programme and the issue date of their first card of 2007 is related to redemption. Those who registered at least a year prior were significantly more likely to be a redeemer than those who registered within the last twelve months (Table 14).

Table 14: Years since first registering with the Quitline

	Redeemers %
Within 1 year n=9,348	78.6
1-2 years n=1,499	83.1
3-4 years n=1,469	83.9
5+ years n=2,702	89.3
Total n=15,018	81.5

## Conclusion

This report extends the findings from previous reports on redemption. Redemption and redeemer rates for quit cards issued by the Quitline between January and June 2007 are 72% and 82%. Characteristics of redeemers are presented and findings are mainly consistent with previous reports. One finding that may have an impact on the effectiveness of the Quitline service concerns the significantly lower redeemer rates for Māori (71%) and Pacific callers (62%). The lower redeemer rate for clients under 25 years old (<15 = 40% and 15-24 = 66%) is also cause for concern. In saying that however, it is equally important to celebrate the improved redeemer rate for Pacific callers, from 62% in January-June 2006 to 66% in the same 6-month period in 2007.

In the New Quitline Service evaluation that is currently underway, Quitline callers who did not redeem their quit cards are asked why they did not do so. The results from the evaluation will provide important explanatory information to add to this analysis. Seasonality of quit card redemption will also be explored when more data on redemption becomes available over time.

## Appendix

Extra statistical analysis for significance<sup>7</sup>

Table A1: Type of NRT

	Gum			Both		
	mean	95% CI		mean	95% CI	
Patches	9.6	(7.9, 11.3)	***	-2.9	(-4.3, -1.5)	***
Gum				-12.5	(-14.4, -10.6)	***

Table A2: Number of cards ever issued by the Quitline

	2 Cards		3 Cards		4+ Cards	
	mean	95% CI	mean	95% CI	mean	95% CI
1 Card	10.8	(9.2, 12.4) ***	2.5	(0.7, 4.3) *	-1.8	(-3.2, -0.4)
2 Cards			-8.3	(-10.3, -6.3) ***	-12.6	(-14.3, -10.9) ***
3 Cards					-4.3	(-6.2, -2.4) ***

Table A3: Ethnicity

	Pacific		Non-Māori non-Pacific	
	mean	95% CI	mean	95% CI
Māori	5.5	(1.4, 9.6) *	-13.8	(-15.4, -12.2) ***
Pacific			-19.3	(-23.2, -15.4) ***

Table A4: Gender

	Male		Unidentified	
	mean	95% CI	mean	95% CI
Female	0.1	(-1.1, 1.3)	56.6	(14.2, 99) *
Male			56.5	(14.1, 98.9) *

Table A5: Ethnicity x Gender

Māori	Pacific		Non-Māori non-Pacific		
	Male - Female		Male - Female		
mean	95% CI		mean	95% CI	
-0.7	(-3.8, 2.4)		-3.1	(-10.8, 4.6)	
			-0.7	(-2.0, -0.6) ***	

<sup>7</sup> All p-values are corrected by Bonferroni's Correction.

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001 for z-test H<sub>0</sub>: Row % - Column % = 0 and 95% CI of (Row % - Column %)

Table A6: Age

	15-24 mean 95% CI	25-44 mean 95% CI	45-64 mean 95% CI	65+ mean 95% CI	Unidentified mean 95% CI
<15	-26.2 (-69.2, 16.8)	-42.2 (-85.1, 0.7)	-47.8 (-90.8, -4.8) *	-51.0 (-94, -8) **	-40.0 (-86.4, 6.4)
15-24		-16.0 (-18.1, -13.9) ***	-21.6 (-23.7, -19.5) ***	-24.8 (-27.6, -22.0) ***	-13.8 (-31.4, 3.8)
25-44			-5.6 (-6.9, -4.3) ***	-8.8 (-11.1, -6.5) ***	2.2 (-15.4, 19.8)
45-64				-3.2 (-5.5, -0.9)	7.8 (-9.8, 25.4)
65+					11.0 (-6.7, 28.7)

Table A7: District Health Board

	Waitemata		Auckland		Counties Manukau		Waikato		Bay of Plenty		Lakes	
	mean	95% CI	mean	95% CI	mean	95% CI	mean	95% CI	mean	95% CI	mean	95% CI
Northland	-4.5	(-8.1, -0.9)	-0.7	(-4.6, 3.2)	2.0	(-1.9, 5.9)	-1.0	(-4.8, 2.8)	-4.7	(-8.7, -0.7)	0.9	(-4.0, 5.8)
Waitemata			3.8	(0.9, 6.7)	6.5	(3.6, 9.4)**	3.5	(0.7, 6.3)	-0.2	(-3.3, 2.9)	5.4	(1.2, 9.6)
Auckland					2.7	(-0.5, 5.9)	-0.3	(-3.5, 2.9)	-4.0	(-7.4, -0.6)	1.6	(-2.8, 6.0)
Counties Manukau							-3.0	(-6.1, 0.1)	-6.7	(-10.1, -3.3)*	-1.1	(-5.5, 3.3)
Waikato									-3.7	(-7.1, -0.3)	1.9	(-2.5, 6.3)
Bay of Plenty											5.6	(1.0, 10.2)
Lakes												
Tairāwhiti												
Taranaki												
Hawke's Bay												
Whanganui												
Mid Central												
Wairarapa												
Capital and Coast												
Hutt Valley												
Nelson												
Marlborough												
West Coast												
Canterbury												
South Canterbury												
Otago												
Southland												

	Tairāwhiti		Taranaki		Hawke's Bay		Whanganui		Mid Central		Wairarapa	
	mean	95% CI	mean	95% CI	mean	95% CI	mean	95% CI	mean	95% CI	mean	95% CI
Northland	1.6	(-6.8, 10.0)	-5.1	(-10.0, -0.2)	-5.6	(-9.8, -1.4)	-1.8	(-7.4, 3.8)	-2.3	(-6.8, 2.2)	-8.5	(-14.7, -2.3)
Waitemata	6.1	(-1.9, 14.1)	-0.6	(-4.8, 3.6)	-1.1	(-4.4, 2.2)	2.7	(-2.2, 7.6)	2.2	(-1.5, 5.9)	-4.0	(-9.6, 1.6)
Auckland	2.3	(-5.8, 10.4)	-4.4	(-8.8, 0.0)	-4.9	(-8.5, -1.3)	-1.1	(-6.2, 4.0)	-1.6	(-5.6, 2.4)	-7.8	(-13.6, -2.0)
Counties Manukau	-0.4	(-8.5, 7.7)	-7.1	(-11.5, -2.7)	-7.6	(-11.2, -4.0)*	-3.8	(-8.9, 1.3)	-4.3	(-8.2, -0.4)	-10.5	(-16.3, -4.7)
Waikato	2.6	(-5.4, 10.6)	-4.1	(-8.4, 0.2)	-4.6	(-8.1, -1.1)	-0.8	(-5.9, 4.3)	-1.3	(-5.2, 2.6)	-7.5	(-13.3, -1.7)
Bay of Plenty	6.3	(-1.9, 14.5)	-0.4	(-4.9, 4.1)	-0.9	(-4.7, 2.9)	2.9	(-2.3, 8.1)	2.4	(-1.7, 6.5)	-3.8	(-9.7, 2.1)
Lakes	0.7	(-7.9, 9.3)	-6.0	(-11.3, -0.7)	-6.5	(-11.2, -1.8)	-2.7	(-8.7, 3.3)	-3.2	(-8.2, 1.8)	-9.4	(-15.9, -2.9)
Tairāwhiti			-6.7	(-15.3, 1.9)	-7.2	(-15.4, 1.0)	-3.4	(-12.4, 5.6)	-3.9	(-12.3, 4.5)	-10.1	(-19.5, -0.7)
Taranaki					-0.5	(-5.2, 4.2)	3.3	(-2.6, 9.2)	2.8	(-2.2, 7.8)	-3.4	(-9.9, 3.1)
Hawke's Bay							3.8	(-1.6, 9.2)	3.3	(-1.0, 7.6)	-2.9	(-8.9, 3.1)
Whanganui									-0.5	(-6.1, 5.1)	-6.7	(-13.7, 0.3)
Mid Central											-6.2	(-12.4, 0.0)
Wairarapa												
Capital and Coast												
Hutt Valley												
Nelson												
Marlborough												
West Coast												
Canterbury												
South Canterbury												
Otago												
Southland												



	Capital and Coast mean 95% CI	Hutt Valley mean 95% CI	Nelson Marlborough mean 95% CI	West Coast mean 95% CI	Canterbury mean 95% CI	South Canterbury mean 95% CI
Northland	-4.8 (-8.8, -0.8)	-5.7 (-9.9, -1.5)	-6.6 (-11.2, -2.0)	-12.3 (-17.6, -7.0)	-6.0 (-9.6, -2.4)	-7.1 (-13.2, -1.0)
Waitemata	-0.3 (-3.3, 2.7)	-1.2 (-4.5, 2.1)	-2.1 (-6.0, 1.8)	-7.8 (-12.5, -3.1)	-1.5 (-4.0, 1.0)	-2.6 (-8.1, 2.9)
Auckland	-4.1 (-7.4, -0.8)	-5.0 (-8.6, -1.4)	-5.9 (-10.0, -1.8)	-11.6 (-16.5, -6.7)	-5.3 (-8.2, -2.4)	-6.4 (-12.1, -0.7)
Counties Manukau	-6.8 (-10.1, -3.5) *	-7.7 (-11.3, -4.1) *	-8.6 (-12.7, -4.5) *	-14.3 (-19.2, -9.4) **	-8.0 (-10.9, -5.1) ***	-9.1 (-14.8, -3.4)
Waikato	-3.8 (-7.0, -0.6)	-4.7 (-8.3, -1.1)	-5.6 (-9.7, -1.5)	-11.3 (-16.1, -6.5)	-5.0 (-7.8, -2.2)	-6.1 (-11.8, -0.4)
Bay of Plenty	-0.1 (-3.6, 3.4)	-1.0 (-4.8, 2.8)	-1.9 (-6.2, 2.4)	-7.6 (-12.6, -2.6)	-1.3 (-4.4, 1.8)	-2.4 (-8.2, 3.4)
Lakes	-5.7 (-10.2, -1.2)	-6.6 (-11.3, -1.9)	-7.5 (-12.6, -2.4)	-13.2 (-19.0, -7.4) *	-6.9 (-11.1, -2.7)	-8.0 (-14.5, -1.5)
Tairāwhiti	-6.4 (-14.5, 1.7)	-7.3 (-15.5, 0.9)	-8.2 (-16.7, 0.3)	-13.9 (-22.8, -5.0)	-7.6 (-15.6, 0.4)	-8.7 (-18.1, 0.7)
Taranaki	0.3 (-4.2, 4.8)	-0.6 (-5.3, 4.1)	-1.5 (-6.6, 3.6)	-7.2 (-12.9, -1.5)	-0.9 (-5.1, 3.3)	-2.0 (-8.5, 4.5)
Hawke's Bay	0.8 (-2.9, 4.5)	-0.1 (-4.0, 3.8)	-1.0 (-5.4, 3.4)	-6.7 (-11.8, -1.6)	-0.4 (-3.7, 2.9)	-1.5 (-7.4, 4.4)
Whanganui	-3.0 (-8.2, 2.2)	-3.9 (-9.3, 1.5)	-4.8 (-10.5, 0.9)	-10.5 (-16.8, -4.2)	-4.2 (-9.1, 0.7)	-5.3 (-12.3, 1.7)
Mid Central	-2.5 (-6.5, 1.5)	-3.4 (-7.7, 0.9)	-4.3 (-9.0, 0.4)	-10.0 (-15.4, -4.6)	-3.7 (-7.4, 0.0)	-4.8 (-11.0, 1.4)
Wairarapa	3.7 (-2.1, 9.5)	2.8 (-3.2, 8.8)	1.9 (-4.4, 8.2)	-3.8 (-10.7, 3.1)	2.5 (-3.1, 8.1)	1.4 (-6.1, 8.9)
Capital and Coast		-0.9 (-4.6, 2.8)	-1.8 (-6.0, 2.4)	-7.5 (-12.5, -2.5)	-1.2 (-4.2, 1.8)	-2.3 (-8.1, 3.5)
Hutt Valley			-0.9 (-5.3, 3.5)	-6.6 (-11.8, -1.4)	-0.3 (-3.7, 3.1)	-1.4 (-7.4, 4.6)
Nelson				-5.7 (-11.2, -0.2)	0.6 (-3.3, 4.5)	-0.5 (-6.8, 5.8)
Marlborough						
West Coast					6.3 (1.6, 11.0)	5.2 (-1.6, 12.0)
Canterbury						-1.1 (-6.7, 4.5)
South Canterbury						
Otago						
Southland						

	Otago		Southland		Unidentified		
	mean	95% CI	mean	95% CI	mean	95% CI	
Northland	-7.7	(-11.7, -3.7) *	-3.7	(-8.8, 1.4)	-4.7	(-13.0, 3.6)	
Waitemata	-3.2	(-6.2, -0.2)	0.8	(-3.6, 5.2)	-0.2	(-8.1, 7.7)	
Auckland	-7.0	(-10.4, -3.6) *	-3.0	(-7.6, 1.6)	-4.0	(-12.0, 4.0)	
Counties Manukau	-9.7	(-13.0, -6.4) ***	-5.7	(-10.3, -1.1)	-6.7	(-14.7, 1.3)	
Waikato	-6.7	(-10.0, -3.4) *	-2.7	(-7.2, 1.8)	-3.7	(-11.7, 4.3)	
Bay of Plenty	-3.0	(-6.6, 0.6)	1.0	(-3.7, 5.7)	0.0	(-8.1, 8.1)	
Lakes	-8.6	(-13.1, -4.1) *	-4.6	(-10.1, 0.9)	-5.6	(-14.2, 3.0)	
Tairāwhiti	-9.3	(-17.4, -1.2)	-5.3	(-14.0, 3.4)	-6.3	(-17.2, 4.6)	
Taranaki	-2.6	(-7.1, 1.9)	1.4	(-4.1, 6.9)	0.4	(-8.1, 8.9)	
Hawke's Bay	-2.1	(-5.8, 1.6)	1.9	(-2.9, 6.7)	0.9	(-7.3, 9.1)	
Whanganui	-5.9	(-11.1, -0.7)	-1.9	(-8.0, 4.2)	-2.9	(-11.8, 6.0)	
Mid Central	-5.4	(-9.5, -1.3)	-1.4	(-6.5, 3.7)	-2.4	(-10.7, 5.9)	
Wairarapa	0.8	(-5.1, 6.7)	4.8	(-1.8, 11.4)	3.8	(-5.5, 13.1)	
Capital and Coast	-2.9	(-6.4, 0.6)	1.1	(-3.5, 5.7)	0.1	(-7.9, 8.1)	
Hutt Valley	-2.0	(-5.7, 1.7)	2.0	(-2.9, 6.9)	1.0	(-7.2, 9.2)	
Nelson Marlborough	-1.1	(-5.3, 3.1)	2.9	(-2.3, 8.1)	1.9	(-6.5, 10.3)	
West Coast	4.6	(-0.4, 9.6)	8.6	(2.7, 14.5)	7.6	(-1.2, 16.4)	
Canterbury	-1.7	(-4.8, 1.4)	2.3	(-2.1, 6.7)	1.3	(-6.6, 9.2)	
South Canterbury	-0.6	(-6.4, 5.2)	3.4	(-3.2, 10.0)	2.4	(-6.9, 11.7)	
Otago			4.0	(-0.7, 8.7)	3.0	(-5.1, 11.1)	
Southland					-1.0	(-9.6, 7.6)	

Table A8: Tobacco type

	Roll-your-own (RYO) mean 95% CI	Both Tailor-made and RYO mean 95% CI	Other mean 95% CI	Unidentified mean 95% CI
Tailor-made cigarettes	3.0 (1.7, 4.3) ***	12.2 (9.7, 14.7) ***	-5.7 (-13.7, 2.3)	-3.1 (-8.2, 2.0)
Roll-your-own (RYO)		9.2 (6.6, 11.8) ***	-8.7 (-16.7, -0.7)	-6.1 (-11.2, -1.0)
Both Tailor made and RYO			-17.9 (-26.2, -9.6) *	-15.3 (-20.8, -9.8) ***
Other				2.6 (-6.8, 12.0)

Table A9: Time to first cigarette after waking

	30 mins or more from waking mean 95% CI	Unidentified mean 95% CI
Within 30 mins from waking	1.2 (-0.2, 2.6)	-5.3 (-12.5, 1.9)
30 mins or more from waking		-6.5 (-13.7, 0.7)

Table A10: Intensity of inhaling

	Moderately mean 95% CI	Lightly mean 95% CI	Unidentified mean 95% CI
Heavily	-1.6 (-2.9, -0.3)	0.6 (-1.9, 3.1)	-6.8 (-13.2, -0.4)
Moderately		2.2 (-0.2, 4.6)	-5.2 (-11.6, 1.2)
Lightly			-7.4 (-14.2, -0.6)

Table A11: First time or repeat clients

	Repeat clients mean 95% CI
First time clients	-10.7 (-12, -9.4) ***

Table A12: Years since first registering with the Quitline

	1-2 years mean 95% CI	3-4 years mean 95% CI	5+ years mean 95% CI
Within 1 year	-4.5 (-6.6, -2.4) ***	-5.3 (-7.4, -3.2) ***	-10.7 (-12.1, -9.3) ***
1-2 years		-0.8 (-3.5, 1.9)	-6.2 (-8.4, -4.0) ***
3-4 years			-5.4 (-7.6, -3.2) ***