

Disparities in age of smoking initiation and transition to daily smoking in New Zealand

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Niveditha Gurram and Greg Martin, Research and Evaluation Unit, Health Promotion Agency.

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Any queries regarding this report should be directed to HPA at the following address:

Health Promotion Agency

PO Box 2142

Wellington 6140

New Zealand

www.hpa.org.nz

enquiries@hpa.org.nz

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EXECUTIVE SUMMARY

INTRODUCTION

Understanding trends and disparities related to the age of smoking initiation and transition to daily smoking is important for monitoring the progress of tobacco control strategies. The purpose of this study was to examine the age of smoking initiation and transition into daily smoking using a nationally representative sample of New Zealanders aged 15 years and over by age, sex, ethnicity and deprivation status. This study also compares these results over time.

METHODS

The Health and Lifestyles Survey (HLS) is a biennial survey of New Zealand adults aged 15 years and over. The survey used multistage, stratified, clustered and random probability sampling and collected information through computer assisted face to face in-house personal interviews. The HLS was completed by 2,725 participants in 2018.

KEY FINDINGS

- In 2018, the mean ages of smoking initiation and daily uptake were 15.3 years and 17.6 years respectively.
- Māori (14.1 years) and current smokers (14.8 years) were more likely to start smoking at a younger age.
- Males (15.3 years) were more likely to start smoking at a younger age when compared to females (16.1 years).
- Māori (16.7 years) were more likely to take up daily smoking at a younger age.
- Pasifika and Asian people were less likely to initiate first and daily smoking at a younger age.
- The mean transition duration from smoking initiation to daily uptake was 2.5 years for all smokers, although only 1.4 years for Asian people.
- Overall, there has been no significant increase in the mean age of smoking initiation between 2012 and 2018, and there has been no significant increase in mean age of uptake of daily smoking between 2010 and 2018.
- In 2018, Pasifika people were more likely to start smoking and take up daily smoking at a later age when compared to Pasifika people in 2012 and 2010 respectively.

DISCUSSION

Generally, smoking uptake occurs during adolescence. Despite the changing regulatory environment with regard to tobacco control the mean age of smoking initiation and daily uptake are still under 18 years. We found significant disparities in the age of smoking initiation and daily uptake among the predominant ethnic groups in New Zealand. Māori are initiating smoking and becoming daily smokers at a younger age than the general population. To achieve the Government's 'Smokefree 2025' goal, it is important that policy makers and practitioners are aware of this age disparity in order to ensure this priority population is appropriately engaged.

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1. INTRODUCTION

1.1 BACKGROUND

In March 2011, the New Zealand (NZ) government set an aspirational goal of becoming smokefree by 2025, where less than 5% of the population smokes (The New Zealand Government, 2011). To achieve this goal it is important to understand and monitor the age of smoking initiation and transition into daily smoking.

Internationally, there is substantial evidence that most smokers initiate smoking before the age of 18 (Everett et al., 1999; Giovino, 2002; U. S. Department of Health and Human Services, 2012). Several studies have shown that earlier onset smoking is strongly associated with future smoking behaviour and outcomes, including daily smoking, intensity of smoking, addiction to nicotine and difficulty in quitting (Everett et al., 1999; Fernandez et al., 1999; Reidpath, Ling, Wellington, Al-Sadat, & Yasin, 2012; Wilkinson, Schabath, Prokhorov, & Spitz, 2007). Understanding trends and disparities related to the age of smoking initiation and transition to daily smoking is important for monitoring progress of tobacco control strategies.

Smoking prevalence in NZ has declined significantly over time. In 2018, 12.8% of adults (15 years or over) smoked daily compared to 16.8% in 2010. However, ethnic disparities continue to exist with 29.9% of Māori adults and 19.1% of Pasifika adults smoking daily (Health Promotion Agency, 2019a). In 2018, less than two percent of young people aged 14 and 15-years-old reported daily smoking, although rising to 5.2% of Māori and 2.9% of Pasifika (Action on Smoking and Health, 2018).

In NZ, smoking initiation largely occurs among older youth and young adults (Edwards, Carter, Peace, & Blakely, 2013). Results from the 2012/13 New Zealand Health Survey show that Māori were earliest to initiate smoking at 14.1 years and Pasifika adults had the shortest transition time between initiation and daily uptake when compared with smokers of other ethnic groups (2.7 years) (Ministry of Health, 2014).

There are weaknesses with the data available on age of smoking initiation and transition into daily smoking. Firstly, as gender and deprivation status are also associated with smoking prevalence (Tu, Newcombe, Edwards, & Walton, 2016), there is a lack of studies examining the age of smoking initiation and daily uptake by gender and deprivation status. Secondly, there are no further studies available monitoring these results across years. Given the decline in the smoking prevalence in NZ, more updated analyses of age of smoking initiation and daily uptake are required to determine where prevention initiatives might best be targeted.

1.2 CURRENT STUDY OBJECTIVES

The aim of this paper is to explore the age of smoking initiation and transition into daily smoking using a nationally representative sample of New Zealanders aged 15 years and over (the 2018 Health and Lifestyles Survey, HLS). This study examines the mean age of smoking initiation and transition into daily uptake for adults as a whole and by age, gender, ethnicity, deprivation status and smoking status. This study also explores trends over time using data from previous waves of HLS data collection (2010, 2012 and 2016).

2. METHODS

2.1 SURVEY

The 2018 HLS is a nationally representative survey of 2,725 New Zealanders aged 15 years and over. The survey used multistage, stratified, clustered and random probability sampling and collected information on various health related topics, including tobacco use, alcohol, gambling harm, health education, mental health, immunisation, skin cancer, nutrition and physical activity. Interviews were conducted face-to face in-house using Computer Assisted Personal Interviewing (CAPI).

The unweighted response rate for the 2018 HLS is 75%. A full description of the 2018 HLS methodology can be found on the HPA website (Health Promotion Agency, 2018). Participation in the 2018 HLS was voluntary and informed consent was obtained. Ethics approval for the 2018 HLS was obtained from the New Zealand Ethics Committee (Application Number: 2018_15). To compare the results over time, we also used the data from 2010, 2012 and 2016 HLS. Fully detailed methodology reports for each survey year are available elsewhere (Devlin, 2011; Health Promotion Agency, 2013, 2017).

2.2 VARIABLES

2.2.1 Smoking status

All survey participants were asked whether they had ever smoked a cigarette (even just a few puffs). Participants who answered 'yes' were classified as ever smokers and those who answered 'no' were classified as non-smokers. All ever smokers were asked whether they had smoked daily for a week. Those who answered 'yes' were categorised as ever daily smokers. All ever smokers were asked how often they smoke tobacco now. Those who answered 'at least once a day', 'at least once a week' or 'at least once a month' were classified as current smokers and those who answered 'less often than once a month' and 'I do not smoke now' were classified as ex/experimental smokers.

2.2.2 Age of smoking initiation and daily uptake

All ever smokers were asked at what age they first tried a cigarette, even just a few puffs (**age of initiation**) and at what age they started to smoke daily (**age of daily smoking**). Transition duration (in years) between the age of smoking initiation and daily uptake was also calculated.

2.2.3 Socio demographic variables

Age of smoking initiation and daily uptake were assessed by gender, age, prioritised ethnic groups and deprivation status:

- Age was categorised into three groups: 15 to 24 years, 25 to 44 years and 45 years and older.
- Prioritised ethnic groups involved each participant being assigned to a single ethnic group, based on the ethnicities they have identified with, in the prioritisation order of Māori, Pasifika, Asian and European/Other (Ministry of Health, 2004, 2017).
- Deprivation status: the 2016 and 2018 surveys used the NZ Index of Socioeconomic Deprivation 2013 (NZDep 2013). Factors from the 2013 Census were used to create NZDep2013 (receiving a means tested benefit, low household income, household overcrowding, not living in own home, no access to internet at home, no access to car, living in a single parent family, unemployment and no educational qualification obtained) (Atkinson, Salmond, & Crampton, 2014). The 2010 and 2012 surveys used the NZ Index of Socioeconomic Deprivation 2006 (NZDep 2006) (Salmond, Crampton, & Atkinson, 2007). For our analyses, these deciles have been grouped into: low (deciles 1 to 3), moderate (deciles 4 to 7) and high (deciles 8 to 10) deprivation.

2.3 ANALYSES

We conducted statistical analyses using STATA version 15.0. As the survey was designed to represent the NZ resident population aged 15 years and over, it was necessary to make sure that no population group is over- or under- represented in our analyses. For each survey year, responses were weighted using the estimated resident population published by Statistics New Zealand. Since HLS is a complex survey design and the use of basic variance estimation method which assumes random sample could introduce biases to the findings, we applied replicated weights using Jackknife. As the age of smoking initiation, age of daily uptake of smoking and transition duration are continuous outcome variables, mean values and confidence intervals (95%CI) were reported for sup-groups of interest (eg, by ethnicity and gender). A series of linear regression models were performed to calculate differences between all demographic groups. Following this, we calculated adjusted means by controlling for all demographic variables.

3. RESULTS

The unweighted sample characteristics for the 2018 HLS are outlined in Table 1. The proportion of current smokers in the sample was 14.7%, while the proportion of ex/experimental smokers was 38.9%.

Table 1: 2018 HLS sample characteristics

	n	Percentage (unweighted)	Percentage (weighted)
Gender			
Female	1,675	61.5	51.2
Male	1,050	38.5	48.8
Age			
15-24 years	253	9.3	17.1
25-44 years	938	34.4	33.0
45+ years	1,534	56.3	50.0
Ethnicity (prioritised)			
Māori	563	20.7	13.1
Pasifika	470	17.3	5.7
Asian	245	9.0	15.0
European/Other	1,447	41.6	66.1
Deprivation score			
Score 1-3	610	22.5	32.2
Score 4-7	976	36.0	39.7
Score 8-10	1,128	41.6	28.1
Smoking status			
Never smokers	1,129	41.9	46.4 (43.3-49.5)
Ex/experimental smokers	1,091	17.7	38.9 (36.1-41.8)
Current smokers	478	40.4	14.7 (12.4-17.0)

3.1 AGE OF SMOKING INITIATION

As shown in Table 2, the mean age of smoking initiation among ever smokers in the 2018 HLS was 15.3 years. Age of initiation is earlier for males (15.3 years) than females (16.1 years), and for Māori (14.1 years). Pasifika (17.2 years) and Asians (19.1 years) were more likely to start smoking later when compared to European/Other adults (15.3 years). Current smokers (14.8 years) were more likely to start smoking at a younger age when compared to ex/experimental smokers (15.5 years). While there has been no significant increase in the overall mean age of smoking initiation since 2012 there has been significant increase among Pasifika and people living in moderately deprived communities (see Table 4 in Appendix).

Table 2: Mean age (in years) of smoking initiation among ever smokers who participated in the 2018 HLS

Population group	n	Unadjusted Mean (95%CI)	Adjusted Mean (95%CI)
Total	1,569	15.3 years (15.0-15.6)	-
Gender			
Males	650	15.0 (14.6-15.5)	15.3 (14.8-15.8)*
Females ^R	919	15.6 (15.3-16.0)	16.1 (15.6-16.5)
Age			
15-24 years	120	15.4 (14.5-16.2)	15.9 (14.9-16.9)
25-44 years	528	15.4 (14.9-15.9)	15.7 (15.3-16.2)
45+ years ^R	921	15.3 (14.9-15.7)	15.7 (15.3-16.2)
Ethnicity (prioritised)			
Māori	420	13.9 (13.5-14.3)***	14.1 (13.6-14.5)***
Pasifika	232	17.0 (16.0-18.0)**	17.2 (16.2-18.2)***
Asian	47	18.9 (17.0-20.7)***	19.1 (17.2-21.0)***
European/Other ^R	870	15.2 (14.9-15.6)	15.3 (15.0-15.6)
Deprivation score			
Score 1-3 ^R	321	15.3 (14.7-15.9)	15.7 (15.1-16.3)
Score 4-7	578	15.7 (15.2-16.2)	16.2 (15.7-16.7)
Score 8-10	662	14.7 (14.3-15.1)	15.3 (14.8-15.7)
Smoking status			
Ex/experimental smokers ^R	1,091	15.5 (15.2-15.9)	15.5 (15.2-15.8)
Current smokers	478	14.7 (14.2-15.2)**	14.8 (14.3-15.3)*

R: Reference group

Statistically significant results ($p < 0.05$) are in bold. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

3.2 AGE OF DAILY UPTAKE OF SMOKING

The mean age of uptake of daily smoking among ever daily smokers was 17.6 years (see Table 3). Respondents aged 15 to 24 years (16.5 years) started daily smoking at a younger age when compared to respondents aged 45 years and over (18.3 years). Māori adults (16.7 years) started daily smoking earlier than European/Other (17.5 years), while Pasifika (19.6 years) and Asians (20.1 years) started daily smoking at later ages. The mean age of daily uptake of smoking has not increased since 2012 (see Table 5 in Appendix). However, the mean age of daily uptake of smoking for Pasifika people has increased to 19.2 years in 2018 (19.2 years) when compared to 17.7 years in 2012.

Table 3: Mean age of daily uptake of smoking and transition duration (in years) among ever daily smokers who participated in the 2018 HLS

Population group	n	Mean age of daily uptake of smoking		Transition duration	
		Unadjusted Mean (95%CI)	Adjusted Mean (95%CI)	Unadjusted Mean (95%CI)	Adjusted Mean (95%CI)
Total	1,127	17.6 (17.3-17.9)	-	2.5 (2.3-2.8)	-
Gender					
Males	491	17.4 (16.9-17.8)	17.6 (17.2-18.1)	2.6 (2.2-2.9)	2.5 (2.1-2.9)
Females ^R	636	17.8 (17.4-18.4)	18.1(17.6-18.6)	2.5 (2.2-2.8)	2.3 (2.0-2.7)
Age					
15-24 years	75	16.1 (15.3-16.9)***	16.5 (15.6-17.5)**	2.1 (1.5-2.8)	1.9 (1.2-2.6)
25-44 years	384	17.5 (17.0-18.0)	17.8 (17.3-18.3)	2.7 (2.3-3.1)	2.6 (2.1-3.0)
45+ years ^R	668	17.9 (17.5-18.4)	18.3 (17.8-18.8)	2.5 (2.2-2.9)	2.4 (2.1-2.8)
Ethnicity (prioritised)					
Māori	332	16.5 (16.0-17.0)**	16.7 (16.2-17.4)*	3.0 (2.4-3.5)	2.9 (2.4-3.5)
Pasifika	173	19.2 (18.3-20.2)**	19.6 (18.6-20.5)***	2.4 (1.9-3.0)	2.4 (1.8-3.0)
Asian	31	19.8 (18.1-21.5)*	20.1 (18.3-21.9)**	1.5 (0.6-2.3)*	1.4 (0.5-2.4)*
European/Other ^R	591	17.6 (17.2-18.0)	17.5 (17.1-17.9)	2.5 (2.2-2.8)	2.5 (2.2-2.8)
Deprivation score					
Score 1-3 ^R	185	17.7 (17.0-18.5)	17.9 (17.2-18.6)	2.4 (1.9-3.0)	2.3 (1.8-2.8)
Score 4-7	405	17.9 (17.3-18.4)	18.2 (17.6-18.8)	2.5 (2.1-2.9)	2.4 (2.0-2.8)
Score 8-10	532	17.1 (16.6-17.5)	17.6 (17.1-18.1)	2.6 (2.3-3.0)	2.5 (2.0-2.9)
Smoking status					
Ex/experimental smokers ^R	660	17.8 (17.4-18.3)	17.8 (17.3-18.2)	2.5 (2.2-2.8)	2.5 (2.2-2.8)
Current smokers	456	17.1 (16.7-17.6)*	17.5 (17.0-18.0)	2.5 (2.1-2.9)	2.5 (2.1-3.0)

R: Reference group

Statistically significant results ($p < 0.05$) are in bold. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

3.3 TRANSITION DURATION FROM SMOKING INITIATION TO DAILY UPTAKE

The mean transition duration from smoking initiation to daily uptake was 2.5 years and this has not changed significantly since 2012 (2.9 years) (see Table 6 in Appendix). As shown in Table 3, the mean transition duration did not differ by age, gender, deprivation status and smoking status. Asians (1.4 years) have the shortest transition from smoking initiation to daily uptake when compared to other ethnic groups after controlling for age, gender and deprivation status.

4. DISCUSSION

The current study found that the mean age of smoking initiation and daily uptake in 2018 was 15.3 years and 17.6 years respectively, and this has not changed since 2012 and 2010 respectively. We also found that people in the 15 to 24 years age group were more likely to report starting daily smoking at a younger age (16.5 years) when compared to other age groups. However, the mean age for smoking initiation and transition duration did not differ significantly among these age groups. Although males (15.3 years) were more likely to initiate smoking at a younger age than females (16.1 years), the age of daily uptake of smoking and transition duration did not differ significantly when compared to females.

In 2018, Māori were youngest to start smoking at around 14 years and youngest to take up daily smoking, at just under 17 years. Pasifika and Asian peoples were less likely to start smoking and take up daily smoking at a younger age. Pasifika people in 2018 were more likely to start smoking and take up daily smoking at a later age when compared to Pasifika people in 2012 and 2010 respectively.

The mean age of smoking initiation is the same as that observed in the USA, which found that 15.3 years was the mean age of smoking initiation, but lower than that of Australia (16.4 years) (Australian Institute of Health and Welfare (AIHW), 2017). The mean age for the uptake of daily smoking in NZ (17.6 years) is lower than that observed in the US (18.2 years) and Australia (19.1 years) (Milcarz, Makowiec-Dąbrowska, Bak-Romaniszyn, & Kaleta, 2017; National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, 2014).

While males are shown to initiate smoking at a younger age than females, similar to that in Australia, we found no significant differences in the mean age of daily smoking uptake among males and females (Australian Institute of Health and Welfare (AIHW), 2017). This finding is in contrast to that in Australia where they found that males initiate daily smoking younger than females (Milcarz et al., 2017). The finding that young people aged 15-24 years initiated daily smoking at a younger age when compared to older people aged 45 years and over may be due to two reasons. Firstly, younger people may be more likely to recall events that have occurred during their adolescence and young adulthood more accurately than older people. Secondly, the outcome variable in the present study is the mean, which may have been affected by extreme values (Manikandan, 2011).

We also found that some ethnic groups are at increased risk of smoking initiation at a younger age. This is similar to a US study which found that African Americans and Hispanics initiate smoking earlier than Whites and Asians (Ellickson, Orlando, Tucker, & Klein, 2004). We found that Māori are youngest to start smoking at around 14 years and youngest to uptake daily smoking, at just under 17 years. Pasifika and Asians were less likely to start smoking and uptake daily smoking at a younger age. These results are consistent with the report from the Ministry of Health using the 2012/13 New Zealand Health Survey of participants aged 20 years and over, which found that Māori were youngest to start smoking at 14.1 years and youngest to uptake daily smoking at the

age of 17.1 years (Ministry of Health, 2014). It also found that Pasifika smokers over 20 years had the shortest time lag between smoking initiation and daily uptake (Ministry of Health, 2014). In contrast, the current study found that Asians have shortest time lag between smoking initiation and daily uptake when compared with smokers of other ethnic groups.

We also found that current smokers had started smoking at a younger age than ex/experimental smokers. This adds to the evidence that early smoking initiation is significantly associated with a lower likelihood of smoking cessation and quitting (Breslau & Peterson, 1996). Daily smoking in early adolescence is also associated with a lower probability of quitting (Chen & Millar, 1998). In contrast, the current study did not find any significant difference in the age of daily smoking initiation between the current and ex/experimental smokers after controlling for age, gender, ethnicity and deprivation status.

In NZ, tobacco control policies have been in effect since the Smokefree Environments Act 1990 was enacted. This included restricting the sale and supply of tobacco to those aged over 18-years, not allowing the sale of single cigarettes, limiting tobacco advertising and requiring smokefree indoor workplaces, schools and early childhood centres (Health Promotion Agency, 2019b). Despite this, the mean age of smoking initiation and daily uptake are still under 18 years.

4.1 STRENGTHS

The current study provides information on the age of smoking initiation and daily uptake using a nationally representative sample aged 15 years and over. The study also observed the age of first and daily smoking by age, gender, ethnicity, and deprivation status. It also observed whether there has been any change to the mean age of initiation of first and daily cigarette smoking over time. This study provides important information about the age of initiation of first and daily smoking which specifies a target for tobacco control interventions that aim to reduce initiation among youth and young adults.

4.2 LIMITATIONS

The current study has several limitations. The cross-sectional nature of the survey limited us to observe any association between variables among sub-groups of interest. The information on the age of smoking initiation and daily uptake was obtained by retrospective recall. As such, recall bias may have influenced our results. The use of a prioritised ethnicity variable can cause some bias as it under-represents some population groups (e.g. Pasifika) at the expense of others. The smaller sample size for Asian people may have resulted in less precise estimates for them. It was also not possible to examine differences within the 15 to 24 age group because of the relatively small sample size. Despite its limitations, we were able to identify the specific sub-groups that had younger ages of first and daily smoking initiation.

5. CONCLUSION

Despite the changing regulatory environment with regard to tobacco control the mean age of smoking initiation and daily uptake were still under 18 years. The current study found that males, Māori and current smokers were more likely to initiate smoking at a younger age, while Pasifika and Asian people were less likely to initiate smoking at a younger age. We also found that younger people aged 15 to 24 years and Māori started daily smoking at a younger age, while Pasifika and Asian people started at later age. To achieve the Government's 'Smokefree 2025' goal, it is important that policy makers and practitioners are aware of this age disparity in order to ensure this priority population is appropriately engaged.

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APPENDIX: TRENDS IN THE AGE OF SMOKING INITIATION AND DAILY UPTAKE 2010-2018

Table 4: Unadjusted mean age (in years) of smoking initiation among ever smokers, 2010-2018

Population group	2010	2012 ^R	2016	2018
Total	-	15.0 (14.7-15.3)	15.3 (15.1-15.5)	15.3 (15.0-15.6)
Gender				
Males	-	14.5 (14.2-14.9)	15.1 (14.8-15.4)*	15.0 (14.6-15.5)
Females	-	15.4 (15.0-15.8)	15.5 (15.3-15.8)	15.6 (15.3-16.0)
Age				
15-24 years	-	14.8 (14.0-15.5)	15.3 (14.7-15.9)	15.4 (14.5-16.2)
25-44 years	-	14.8 (14.4-15.2)	15.1 (14.7-15.5)	15.4 (14.9-15.9)
45+ years	-	15.1 (14.7-15.6)	15.5 (15.1-15.7)	15.3 (14.9-15.7)
Ethnicity (prioritised)				
Māori	-	13.8 (13.3-14.3)	14.6 (14.2-15.1)*	13.9 (13.5-14.3)
Pasifika	-	15.6 (14.8-16.4)	16.5 (15.5-17.5)	17.0 (16.0-18.0)*
Asian	-	17.1 (14.9-19.2)	17.4 (16.2-18.6)	18.9 (17.0-20.7)
European/Other	-	15.1 (14.8-15.4)	15.2 (15.0-15.5)	15.2 (14.9-15.6)
Deprivation score				
Score 1-3	-	15.2 (14.6-15.8)	15.7 (15.3-16.1)	15.3 (14.7-15.9)
Score 4-7	-	14.8 (14.4-15.3)	15.2 (14.9-15.5)	15.7 (15.2-16.2)**
Score 8-10	-	15.0 (14.5-15.5)	15.1 (14.7-15.5)	14.7 (14.3-15.1)
Smoking status				
Ex/experimental smokers	-	15.1 (14.8-15.5)	15.4 (15.2-15.7)	15.5 (15.2-15.9)
Current smokers	-	14.6 (14.0-15.1)	15.0 (14.6-15.4)	14.7 (14.2-15.2)

R: Reference group

Statistically significant results ($p < 0.05$) are in bold. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Dashes indicate no data available

Table 5: Unadjusted mean age (in years) of smoking daily uptake among ever daily smokers, 2010-2018

Population group	2010 ^R	2012	2016	2018
Total	18.0 (17.4-18.6)	17.5 (17.2-17.9)	17.8 (17.5-18.0)	17.6 (17.3-17.9)
Gender				
Males	17.9 (17.2-18.6)	17.2 (16.8-17.7)	17.5 (17.2-17.9)	17.4 (16.9-17.8)
Females	18.1 (17.2-19.1)	17.8 (17.4-18.3)	18.0 (17.6-18.4)	17.8 (17.4-18.2)
Age				
15-24 years	15.6 (14.7-16.5)	16.1 (15.2-17.0)	16.7 (16.0-17.4)	16.1 (15.3-16.9)
25-44 years	17.9 (16.8-19.1)	16.8 (16.3-17.2)	16.9 (16.6-17.2)	17.5 (17.0-18.0)
45+ years	18.6 (17.8-19.5)	18.3 (17.8-18.8)	18.4 (18.0-18.8)	17.9 (17.5-18.4)
Ethnicity (prioritised)				
Māori	17.3 (15.8-18.8)	16.6 (16.1-17.2)	16.9 (16.4-17.3)	16.5 (15.9-17.0)
Pasifika	17.7 (16.8-18.5)	17.7 (17.0-18.4)	18.2 (17.4-19.0)	19.2 (18.3-20.2)*
Asian	20.2 (18.9-21.5)	19.2 (16.2-22.2)	19.5 (18.4-20.6)	19.8 (18.1-21.5)
European/Other	18.1 (17.4-18.8)	17.7 (17.3-18.1)	17.8 (17.5-18.1)	17.6 (17.2-18.0)
Deprivation score				
Score 1-3	17.9 (17.0-18.8)	17.9 (17.4-18.4)	18.3 (17.8-18.8)	17.7 (17.0-18.5)
Score 4-7	18.4 (17.3-19.4)	17.4 (16.8-17.9)	17.6 (17.2-18.1)	17.9 (17.3-18.4)
Score 8-10	17.7 (16.6-18.9)	17.5 (16.9-18.1)	17.5 (17.1-17.9)	17.1 (16.6-17.5)
Smoking status				
Ex-smokers	18.6 (17.7-19.5)	17.8 (17.4-18.2)	18.0 (17.6-18.3)	17.8 (17.4-18.3)
Current smokers	17.1 (16.4-17.8)	17.1 (16.6-17.7)	17.4 (17.1-17.8)	17.1 (16.7-17.6)

R: Reference group

Statistically significant results ($p < 0.05$) are in bold. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 6: Unadjusted mean transition age (in years) from smoking initiation to daily uptake of smoking among ever daily smokers, 2010-2018

Population group	2010	2012 ^R	2016	2018
Total	-	2.9 (2.6-3.1)	2.9 (2.6-3.1)	2.5 (2.3-2.8)
Gender				
Males	-	3.0 (2.7-3.4)	2.8 (2.5-3.2)	2.6 (2.2-2.9)
Females	-	2.7 (2.3-3.0)	2.9 (2.5-3.3)	2.5 (2.2-2.8)
Age				
15-24 years	-	2.3 (1.8-2.8)	2.2 (1.5-2.8)	2.1 (1.5-2.7)
25-44 years	-	2.5 (2.1-2.9)	2.7 (2.4-3.1)	2.7 (2.3-3.1)
45+ years	-	3.2 (2.8-3.5)	3.0 (2.7-3.4)	2.5 (2.2-2.9)*
Ethnicity (prioritised)				
Māori	-	3.1 (2.7-3.5)	2.7 (2.4-3.1)	3.0 (2.4-3.5)
Pasifika	-	2.3 (1.7-3.0)	2.1 (1.4-2.8)	2.4 (1.9-3.0)
Asian	-	2.2 (0.8-3.6)	2.1 (1.0-3.3)	1.5 (0.6-2.3)
European/Other	-	2.9 (2.5-3.2)	3.0 (2.7-3.3)	2.5 (2.2-2.8)
Deprivation score				
Score 1-3	-	3.0 (2.5-3.6)	2.9 (2.4-3.4)	2.4 (1.9-3.0)
Score 4-7	-	2.8 (2.3-3.2)	2.8 (2.3-3.3)	2.5 (2.1-2.9)
Score 8-10	-	2.8 (2.4-3.3)	2.9 (2.5-3.2)	2.6 (2.3-3.0)
Smoking status				
Ex-smokers	-	3.0 (2.6-3.3)	2.9 (2.6-3.3)	2.5 (2.2-2.8)
Current smokers	-	2.6 (2.2-3.0)	2.7 (2.3-3.1)	2.5 (2.1-2.9)

R: Reference group

Statistically significant results ($p < 0.05$) are in bold. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Dashes indicate no data available