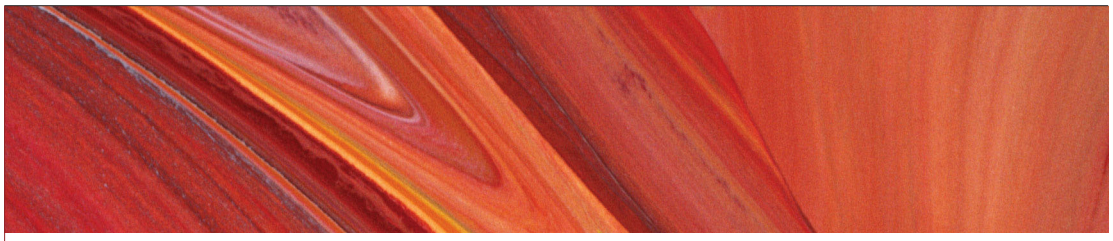

Key findings of the 2000 and 2001 population surveys

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Abstract

Objective

To measure smoking prevalence, cigarette consumption and quitting behaviour in Victoria.

Method

Telephone survey of 2000 randomly sampled Victorians conducted in November 2000 and November 2001.

Results

Smoking prevalence in Victoria in 2000 and 2001 was 20%. The average daily cigarette consumption of Victorian daily smokers has reduced, although not significantly, from 20.2 cigarettes per day in 1998 to 16.9 cigarettes per day in 2001. Consumption is higher among men than women and younger people than older people. Most smokers show an interest in quitting and most former smokers are confident that they will stay quit.

Conclusions

The latest data indicate that Victorian adult smoking prevalence has decreased over the last ten years, while the rate of decrease has slowed. We observed a downward trend in consumption over recent years, particularly among daily smokers, which we expect to continue. As in previous years, interest in quitting was found to be high.

Introduction

Since 1983, annual surveys on smoking knowledge, attitudes and behaviour have been carried out for The Cancer Council Victoria by a large research company. These surveys have always included questions about smoking prevalence, quitting behaviour and knowledge of the risks of smoking, and since the late 1980s have also included questions about workplace smoking policies and other passive smoking-related issues. Each year, the survey also includes questions which are of specific interest at that time. This chapter reports on the key findings from the 2000 and 2001 annual surveys.

Method

The annual population surveys are conducted by a large market research company which interviews a representative sample of 2000 Victorians by telephone each year. The questions, designed by the Centre for Behavioural Research in Cancer, are asked in an eight-minute interview conducted on weekends and weeknights during November.

Readers should be aware of some method changes if making comparisons with previous years. Since 1998, annual surveys have been conducted by telephone rather than the face-to-face method used in previous years, and since 1997 the standard tobacco use question (AIHW 1999) has been used rather than the self-definition question that was used in previous years.

Statistical analysis

A comparison of the sample socio-demographic characteristics with the Australian Bureau of Statistics estimates of the Victorian population (ABS 2000) revealed that women and older people were over-represented. To adjust for this, the data were weighted by age and sex according to the population census data for each year.

To test for the significance of relationships between variables, chi-square and logistic regression analyses were used. In this chapter, details of statistical tests of significance are not usually included in the text. Where relationships between variables are reported, the probability level of significance was less than 0.01, indicating a less than 1 in 100 probability that the effect was caused by chance, and where appropriate, measures of association are reported.

In this report, smoking status is reported using standard questions for tobacco use (AIHW 1999) and has been categorised into four groups: regular smoker, irregular smoker, former smoker and never-smoker. Regular smokers are

defined as those who report smoking daily or at least weekly, irregular smokers are those who report smoking less than weekly, former smokers include those who currently do not smoke but have smoked at least 100 cigarettes in their lifetime, and never-smokers include those who report not smoking at all and have not smoked 100 or more cigarettes in their lifetime. Respondents who reported currently not smoking but had smoked at least daily in the past are classified as ex-smokers. This definition is used to report results that relate to previous smoking and confidence in quitting.

In order to look at demographic differences in the data, age has been aggregated into three categories: 18–29 years, 30–49 years, and 50 years and over. Respondents have been classified by occupational status as upper white collar, lower white collar, upper blue collar, or lower blue collar. The occupational status refers to the main breadwinner in the household and only respondents who reported an employed main breadwinner were included for this classification. Work status has been defined in five categories: paid full-time or part-time employment; household duties; looking for full-time work, part-time work and do not work; retired; and students.

Respondents' educational attainment is classified as: not completed secondary school (Year 11 or less); completed Year 12, trade or diploma; and university degree. The measure used for education since 1998 was designed to suit the telephone interview method and is different to the measure that was used for education in previous *Quit Evaluation Studies* volumes. Thus, comparisons between this and volumes prior to 1998 cannot be made using this classification.

Results

Smoking prevalence

As there was no significant difference in the proportion of respondents smoking between the years 1998 and 1999 and between 2000 and 2001, and the profile of smokers by age and sex was similar between these years, data from the two surveys were combined for analysis.

As indicated in Table 1, the 2000/2001 prevalence figure is based on a sample of 4000 Victorians aged 18 years and over. Within this weighted sample, 20.3% of respondents smoked daily or at least weekly (regular smokers), 1.4% smoked less than weekly (irregular smokers), 31.3% had smoked at least 100 cigarettes in their lifetime (former smokers) and 47.0% had smoked none or less than 100 cigarettes in their lifetime (never-smokers). In 1998/

1999, 3916 Victorians were interviewed. Regular smokers comprised 21.4% of the sample, 1.2% were irregular smokers, 29.4% were former smokers and 47.9% had never smoked.

Table 1 Smoking prevalence for 1998/1999 and 2000/2001

Smoking status	1998/1999 (*n*=3916) %	2000/2001 (*n*=4000) %
Never smoked	47.9	47.0
Former smokers	29.4	31.3
Irregular smokers	1.2	1.4
Regular smokers	21.4	20.3

Due to rounding not all columns sum to 100.

Results for combined data for 2000 and 2001

Smoking status by demographics

Table 2 presents data for smoking status by sex, age, education, household occupational status, work status and region for 2000 and 2001 combined. Significant relationships were found between smoking status and all the demographic variables except sex and region.

The youngest respondents had the highest smoking prevalence of the age groups. As would be expected, former smokers were more numerous in the older age groups and there were more never-smokers in the younger age groups.

Education, the occupational status of the main income earner in the household and respondents' work status were all related to smoking prevalence. Respondents with a university education were least likely to smoke and more likely to be never-smokers than respondents with lower levels of education. Smoking prevalence was found to be higher among people from blue collar occupational status compared to people from white collar occupational status. Most of the difference in prevalence seems to be a result of variation in uptake of smoking, as there was a higher proportion of never-smokers among people from white collar occupational status compared to those from blue collar occupational status. Smoking prevalence among retired people was lower than in the overall population.

Table 2 Smoking status by sex, age, education, household occupational status, work status and region for 2000 and 2001 combined

Variables	Regular smokers		Irregular smokers		Former smokers		Never-smokers	
	%	(*n*)	%	(*n*)	%	(*n*)	%	(*n*)
Total	20.3	(811)	1.4	(57)	31.3	(1251)	47.0	(1881)
Sex	(ns)							
Men	21.3	(417)	1.5	(30)	36.7	(719)	40.4	(792)
Women	19.3	(394)	1.3	(27)	26.1	(532)	53.3	(1089)
Age	(***)							
18–29	28.8	(268)	2.5	(23)	14.4	(134)	54.4	(506)
30–49	23.2	(362)	1.9	(29)	31.2	(487)	43.8	(684)
50+	11.9	(177)	0.4	(6)	41.9	(624)	45.8	(683)
Education	(***)							
Year 11 or less	23.4	(382)	1.0	(16)	33.8	(550)	41.8	(681)
Year 12/Trade	20.2	(290)	2.0	(28)	27.7	(398)	50.1	(719)
University	15.0	(137)	1.4	(13)	32.5	(298)	51.1	(468)
Occupational status	(***)							
Lower blue	30.6	(105)	1.7	(6)	29.4	(101)	38.2	(131)
Upper blue	30.2	(79)	1.9	(5)	35.1	(92)	32.8	(86)
Lower white	21.8	(292)	1.2	(16)	29.8	(400)	47.2	(633)
Upper white	15.4	(77)	2.6	(13)	30.5	(153)	51.5	(258)
Work status	(***)							
Employed	22.6	(554)	1.6	(40)	30.4	(745)	45.3	(1108)
Home duties	23.5	(85)	0.8	(3)	24.7	(89)	51.0	(184)
Retired	10.9	(81)	0.4	(3)	42.5	(316)	46.2	(344)
Unemployed	20.0	(37)	2.7	(5)	35.7	(66)	41.6	(77)
Student	20.3	(53)	2.7	(7)	12.6	(33)	64.4	(168)
Region	(ns)							
Melbourne	19.6	(552)	1.5	(41)	31.0	(871)	47.9	(1347)
Other parts of Vic	21.7	(258)	1.3	(16)	32.0	(380)	44.9	(534)

*** $p<.01$
ns not significant.

Further analysis of the relationship between education and smoking status, taking age into account, is presented in Table 3. Smoking prevalence within the younger and middle age groups appears to be related to educational

attainment. Respondents in the youngest age group had an overall smoking prevalence of 29%. However, when this age group is broken down by education, significant differences in prevalence are found – those with Year 11 or less education have a very high smoking prevalence (41%), whereas smoking is much less common among respondents in this age group with Year 12 (26%) or a university degree (20%).

Table 3 Age profile of regular smokers by education for 2000 and 2001 combined

Education level		Age		
	% smokers	18–29 years 29 (*n*=268) %	30–49 years 23 (*n*=361) %	50+ years 12 (*n*=177) %
Year 11 or less	24 (*n*=381)	41	29	13
Year 12/Trade	20 (*n*=289)	26	21	12
University	15 (*n*=136)	20	17	9

Numbers in parentheses represent the number of smokers in each category.

Trends in smoking prevalence

Figure 1 shows a general downward trend in adult smoking prevalence through the early 1990s followed by a period in the late 1990s when prevalence appeared to plateau.

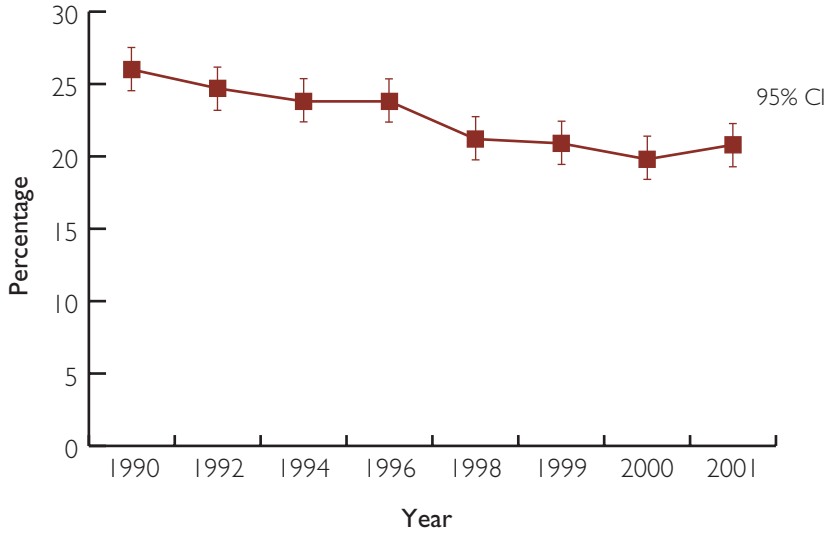

Figure 1 Percentage of Victorians 18 years and over who smoke for the years 1990–2001 (weighted to census population characteristics for 2001)

Cigarette consumption

Smokers were asked 'On average, how many manufactured and/or roll-your-own cigarettes do you smoke per day (daily smokers) or per week (weekly smokers)?'

Table 4 Cigarettes and roll-your-owns smoked per day by age and sex based on reported daily/weekly consumption for 2000 and 2001 combined

	Total		18–29 years		30–49 years		50+ years	
	Male (*n*=405) %	Female (*n*=395) %	Male (*n*=136) %	Female (*n*=131) %	Male (*n*=173) %	Female (*n*=186) %	Male (*n*=94) %	Female (*n*=74) %
1–5	16	22	16	29	17	22	13	8
6–10	23	26	29	34	21	22	19	24
11–15	17	22	24	22	12	21	15	22
16–20	19	15	18	9	20	16	20	24
21+	25	15	14	4	30	19	33	22
Mean	*15.7*	*13.2*	*13.8*	*10.8*	*18.0*	*14.8*	*17.6*	*16.2*

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Consumption levels among men were significantly higher than among women, particularly in the younger age group (see Table 4). Higher levels of smoking consumption were also found for smokers with lower levels of education and lower occupational status.

Table 5 Average daily cigarette consumption by year

Smoking status	Year			
	1998	1999	2000	2001
Daily	20.2 (*n*=379)	17.8 (*n*=335)	15.9 (*n*=360)	16.9 (*n*=365)
Daily and weekly	19.0 (*n*=406)	18.3 (*n*=380)	14.7 (*n*=391)	15.5 (*n*=405)

A comparison of daily cigarette consumption between the years 1998 and 2001 indicates a trend towards reduced smoking, particularly among daily smokers (see Table 5). The average daily consumption for daily smokers has reduced from 20.2 in 1998 to 16.9 in 2001; however, this was not a statistically significant reduction. For daily and weekly smokers combined, the reduction has been from 19.0 to 15.5; this was also not a significant drop.

Table 6 Percentage of heavy, medium and light daily smokers by year

Consumption level	Year			
	1998 (*n*=391) %	1999 (*n*=335) %	2000 (*n*=360) %	2001 (*n*=365) %
Heavy (25+)	28.0	23.4	19.2	21.6
Medium (15–24)	29.0	37.9	33.3	35.6
Light (<15)	43.0	38.6	47.5	42.7

There was a trend towards a reduction in consumption among heavy smokers; however, this was not statistically significant.

Quitting interest and behaviour

Questions related to smokers' behaviour, interest in quitting and beliefs about smoking were asked of respondents. Three measures of smokers' involvement and interest in quitting were used: their previous attempts to quit and how recently they had made an attempt; their perceived likelihood of quitting in the next three months; and a measure of their stage-of-change according to Prochaska and DiClemente's (1983) model.

For each question, the most recent data were analysed to determine if there was any relationship between quitting variables and sex, age, respondent's work status or education.

Attempts to quit smoking

Since 1988, smokers have been asked about their attempts to quit. In each year, at least three-quarters of smokers said they had made at least one attempt to quit. In 2000 and 2001, 79% of smokers said they had tried to quit. There was no relationship between previous attempts to quit and age, sex, occupational status, work status or education.

Longest time quit

In 2000, 21% of smokers said they had never tried to give up. Of those who had, 21% reported the maximum break they had taken was one to six days, 18% had stopped for between one week and four weeks, 26% for between one month and 12 months, and 14% reported a break of more than one year. The findings for 2001 were similar: 21%, 18%, 21%, 31% and 8% respectively. For the data collected in 2000 and 2001 combined, no relationship was found between the longest time quit and age, sex, occupational status, work status and education.

Most recent attempt to stop smoking

Survey data from 2000 indicate that 40% of smokers had tried to quit in the past year and in 2001 the figure was 39%. These findings are similar to 1998 (36%) and 1999 (40%).

There was no relationship between when a person had last attempted to quit and sex, occupational status, work status or education. Younger people were significantly more likely to have tried to quit in the past year (48%) than those aged 30–49 years (39%) and those 50 years and over (30%) (see Table 7). Young people were also more likely to have never tried to quit (27%) than smokers aged 30–49 years (19%) or 50 years and over (20%).

Table 7 Most recent attempt to quit by age, 2000 and 2001 combined

Most recent attempt	Percentage by age group			
	Total (*n*=862)	18–29 years (*n*=290)	30–49 years (*n*=390)	50+ years (*n*=182)
<1 year	40	48	39	30
1–5 years	26	23	29	25
>5 years	11	1	13	23
Never tried	22	27	19	20
Don't know	2	1	2	3

Due to rounding not all columns sum to 100.

Likelihood of giving up in next 30 days or six months

Smokers were asked how likely it was that they would quit within the next six months or 30 days. In 2000, the proportion of smokers who intended to quit in the next 30 days was 13%. Thirty-one per cent intended to quit in the next six months but not in the next 30 days, and 56% had no intention to quit. The findings for 2001 were similar: 17%, 27% and 54% respectively.

For the data collected in 2000 and 2001 combined, no relationship was found between the likelihood of giving up in the next 30 days or six months and age, sex, occupational status, work status or education.

Quitting activity index

A summary measure of quitting activity, Quindex, was created by combining data from a range of questions relating to smoking status, intention to be a smoker one year from now, intention to quit in the next six months and 30 days, and how long ago last tried to quit. A similar index was used in an

evaluation of the National Tobacco Campaign (Tan, Wakefield & Freeman 2000). Scores range from zero to ten, with a higher score indicating more quitting activity.

For the years 2000 and 2001 combined, the mean Quindex scores were 2.6 for regular smokers, 6.5 for irregular smokers, 9.8 for former smokers and 9.9 for never-smokers. Analyses of associations between Quindex scores and socio-demographic characteristics for smokers indicated that quitting activity was related to work status. Smokers who reported being employed were likely to score higher on the Quindex than unemployed smokers or others not in the workforce: 11% of employed smokers scored zero, while 22% of unemployed and 25% of others not in the workforce scored zero.

Nicotine replacement therapy

In 2000, smokers were asked about their use of nicotine replacement therapy. Thirty-six per cent of smokers reported having used either patches or gum in the past – 25% had used gum and 27% had used patches. Table 8 lists the reasons smokers gave for having used nicotine replacement. The most frequently reported reason for using nicotine replacement therapy was to stop smoking (77%). Cutting down (13%) and helping in a situation where smoking is not allowed (5%) were also frequently mentioned reasons. Smokers also mentioned wanting to try it (4%) and other reasons (2%).

Table 8 Reasons why smokers have used nicotine replacement therapy, 2000

Reason	% (*n*=150)
To stop smoking altogether	77
To reduce the amount you smoke	13
To help in a situation where you were not allowed to smoke	5
Wanted to try it	4
Other	2

Due to rounding not all columns sum to 100.

Ex-smokers

Respondents who reported currently not smoking but had smoked at least daily in the past were classified as ex-smokers. These respondents are a subset of respondents classified as former smokers (i.e. currently not smoking but have smoked at least 100 cigarettes in their lifetime).

Length of time since quit and likelihood of smoking again

In 2000 and 2001, respondents who were currently not smoking daily or weekly but reported having smoked daily in the past were asked how long it was since they had quit smoking. Length of time since ex-smokers quit smoking was not significantly related to occupational status or education. However, female respondents were more likely to have quit less than five years ago (23%) than males (15%), and, as would be expected, older people were far more likely than the middle or youngest groups to have quit for more than five years (see Table 9). Similarly, the youngest group was more likely to have quit less than five years ago. Retired people were also significantly more likely to have quit more than five years ago (92%) compared to other work categories – this is likely to be due to these respondents being in an older age group.

Table 9 Length of time since ex-smokers quit smoking by age, 2000 and 2001 combined

Length of time	Percentage by age group			
	Total (*n*=995)	18–29 years (*n*=80)	30–49 years (*n*=385)	50+ years (*n*=530)
<1 year	3	9	4	1
1–5 years	16	56	18	8
>5 years	81	30	78	91
Can't say	1	5	0	0

Due to rounding not all columns sum to 100.

To obtain an indication of the potential risk of relapse, ex-smokers were asked in 2000 and 2001 about their confidence in quitting. Asked how likely it was that they would be smoking in one year, only 1% said that they definitely would, 1% said that they probably would, 6% said that they might or might not, 7% said that they probably would not and 90% said that they definitely would not be smoking.

Discussion

In 2000 and 2001, smoking prevalence was found to be 20.3%, which is lower, although not statistically different, from that found in 1998 and 1999. It is also lower than the national smoking prevalence of 21.8% found by the National Tobacco Campaign evaluation in 1998 (Tan, Wakefield & Freeman 2000). In 2000 and 2001, smoking prevalence was highest for people who were under 30 (29%), had lower levels of education (23%) or who had blue

collar occupational status (30%). Further analysis indicated that smoking prevalence varied within age groups in relation to level of education: in the 18–29 years age group, smoking rates were higher for those with lower levels of education.

Overall, smoking prevalence has decreased in the last decade, but the rate of decrease has slowed. While the prevalence of smoking is highest in the youngest age group, this group has the lowest daily cigarette consumption. It is apparent that a substantial proportion of younger smokers are fairly light smokers, with 45% of young men and 63% of young women reporting that they smoke 10 cigarettes or less per day.

There has been a decrease in cigarette consumption among regular smokers in Victoria from 19.0 cigarettes per day in 1998 to 15.5 cigarettes per day in 2001. It is likely that tobacco tax reforms which came into effect in 1999 and the introduction of a goods and services tax in 2000 have contributed to this (Scollo et al. in press).

Most smokers want to quit smoking at some time – only one in five reported that they had not made an attempt to quit. Over half of smokers wanting to quit had tried to quit in the last 12 months and most had managed to stay quit for more than one month. About half of the smokers indicated an interest in quitting either within the next month or the next six months. Nicotine replacement therapy has been used by about one-third of smokers. A surprisingly large proportion of these smokers (25%), however, gave reasons other than stopping smoking for using nicotine replacement therapy.

Maintenance of smoking cessation is important and it was pleasing that almost all ex-smokers said that they were not likely to be smoking a year from now. This was more the case for ex-smokers who were older, better educated and of higher occupational status.

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