

Post-Implementation Review
Tobacco Plain Packaging
2016



Australian Government

Department of Health

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Introduction & Executive Summary

Introduction

This document is the Post-Implementation Review (PIR) for the *Tobacco Plain Packaging Act 2011* (the TPP Act) and associated regulations¹ (the tobacco plain packaging measure). It has been prepared by the Department of Health (the Department) in accordance with the Australian Government's applicable administrative policy for Post Implementation Reviews as administered by the Office of Best Practice Regulation (OBPR).²

The TPP Act was passed by the House of Representatives in August 2011, and passed with amendments by the Senate and returned for second passage by the House of Representatives in November 2011.³ With effect from 1 December 2012, all tobacco products were required to be sold in standardised, plain packaging.⁴ The tobacco plain packaging measure standardises not only retail packaging, but also the appearance of the tobacco products themselves. The overarching objective of tobacco plain packaging is to contribute to improving public health by, ultimately, reducing smoking and people's exposure to tobacco smoke (through discouraging people from taking up smoking or using tobacco products, encouraging quitting, discouraging relapse, and reducing people's exposure to tobacco smoke). This is to be done via three specific mechanisms: reducing the appeal of tobacco products to consumers, increasing the effectiveness of health warnings, and reducing the ability of the retail packaging of tobacco products to mislead consumers about the harmful effects of smoking or using tobacco products.

This PIR assesses the effectiveness and efficiency of the tobacco plain packaging measure to meet its objective in order to determine if it is an appropriate regulatory intervention. It is set out in three Parts. Part I sets out the problem that was to be addressed and the objectives of the government action. Part II sets out the results of stakeholder consultation engaged in for the purposes of the PIR. Part III provides an assessment of the impacts of the measure on industry, government and the wider community more generally.

Australia's graphic health warnings for tobacco products were also required to be updated and enlarged from 1 December 2012,⁵ at the same time as the introduction of the tobacco plain packaging measure. Plain packaging and enhanced graphic health warnings (the 2012 packaging changes) were intended to work in concert to achieve the overall public health outcomes.

¹ *Tobacco Plain Packaging Act 2011* (Cth) (TPP Act); *Tobacco Plain Packaging Regulations 2011* (Cth) (TPP Regulations).

² Australian Government Office of Best Practice Regulation, *Guidance Note: Post-Implementation Reviews* (July 2014).

³ The *Trade Marks Amendment (Tobacco Plain Packaging) Act 2011* commenced at the same time as the TPP Act, on 1 December 2011. The TPP Regulations were made on 7 December 2011 and amended by the *Tobacco Plain Packaging Amendment Regulation 2012* (made on 8 March 2012) to include requirements for non-cigarette tobacco products.

⁴ With effect from 1 October 2012, all tobacco products manufactured or packaged in Australia for domestic consumption were required to be in plain packaging.

⁵ *Competition and Consumer (Tobacco) Information Standard 2011* (Cth).

Executive Summary

Tobacco use is a leading cause of preventable death and disease and is a key health risk factor in Australia. In 2008 the National Preventative Health Taskforce (NPHT) noted that there had been a “flattening out” in the declines in smoking prevalence in Australia and that the government could not afford to become complacent in relation to tobacco control.⁶ The NPHT also identified the need to address the use of tobacco packaging as a form of tobacco advertising and promotion and recommended the implementation of tobacco plain packaging. Following the policy development process, which made use of the best available evidence on tobacco control, in 2012 the tobacco plain packaging measure was implemented.

In line with Australian government guidance, this PIR examines the post-implementation evidence, data and analysis of the broader costs and benefits to industry, government and the wider community, to evaluate the efficiency and effectiveness of the tobacco plain packaging measure.⁷

In assessing the impact of the measure, compliance costs to industry were estimated, for the purposes of this PIR, using the government’s Regulatory Burden Measurement (RBM) framework.⁸ Costs submissions received from the tobacco industry were at a high level of generality and were not able to be independently verified. In the absence of better information, industry submissions as to costs (in particular a sole costs submission received from one manufacturer) necessarily formed the basis of the estimates derived for the RBM. The regulatory burden was estimated as being \$73.87 million across the entire industry (including manufacturers, importers, wholesalers and retailers). All costs submitted were transitional in nature.

The benefits of the measure were unable to be monetised precisely, given that, as a long term measure, the full benefits are expected to be realised in the long term. Nevertheless, the qualitative discussion of the benefits and illustrative example given provide an indication of how such benefits are expected to result in significant monetised savings as a result of the measure. Even very small impacts on tobacco prevalence attributable to the measure will result in very large monetised health benefits once realised. Indeed, even a drop in smoking prevalence of 0.07 percentage points (or 15,057 people) evenly distributed over ten years would generate an estimated monetary value equivalent to \$273 million.

The introduction of the tobacco plain packaging measure also gave effect to certain obligations Australia has under the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC), specifically under Article 11 (requiring Parties to

⁶ Australian Government National Preventative Health Taskforce, [Australia: The Healthiest Country by 2020: Discussion Paper](#) (2008)

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/discussion-healthiest>>, pp. 21-22.

⁷ See, generally, Australian Government Office of Best Practice Regulation, *Guidance Note: Post-Implementation Reviews* (July 2014).

⁸ Office of Best Practice Regulation, [Regulatory Burden Measurement Framework](#) (February 2015) <http://www.dpmc.gov.au/sites/default/files/publications/005_Regulatory_Burden_Measurement_Framework_1.pdf>.

mandate health warnings on tobacco packaging and to remove the ability of tobacco packaging to mislead consumers) and Article 13 (requiring Parties to implement comprehensive bans on tobacco advertising, promotion and sponsorship).

While the full effect of the tobacco plain packaging measure is expected to be realised over time, the evidence examined in this PIR suggests that the measure is achieving its aims. This evidence shows that tobacco plain packaging is having a positive impact on its specific mechanisms as envisaged in the TPP Act. All of the major datasets examined also showed on-going drops in national smoking prevalence in Australia. These decreases cannot be entirely attributed to plain packaging given the range of tobacco control measures in place in Australia, including media campaigns and Australia's tobacco excise regime. However, analysis of Roy Morgan Single Source Survey Data shows that the 2012 packaging changes (plain packaging combined with enhanced graphic health warnings) have contributed to declines in smoking prevalence, even at this early time after implementation. The analysis estimated that the 2012 packaging changes resulted in a "statistically significant decline in smoking prevalence [among Australians aged 14 years and over] of 0.55 percentage points over the post-implementation period, relative to what the prevalence would have been without the packaging changes"⁹. This decline accounts for approximately one quarter of the total decline in average prevalence rates observed between the 34 months prior to implementation of the measure and the 34 months following the implementation of the measure (the total decline between the two periods was estimated as being 2.2 percentage points, with average prevalence falling from 19.4% to 17.2%). The analysis concludes that, "given the ways in which the TPP Act was intended to work, the policy's effects on overall smoking prevalence and tobacco consumption are likely to grow over time"¹⁰.

In light of all of this evidence, the PIR concludes that tobacco plain packaging is achieving its aim of improving public health in Australia and is expected to have substantial public health outcomes into the future.

⁹ Appendix A, T. Chipty, *Study of the Impact of the Tobacco Plain Packaging Measure on Smoking Prevalence in Australia* (January 2016), para. 6.

¹⁰ *Ibid*, para. 9.

Part I: The Introduction of Tobacco Plain Packaging

1. This Part briefly describes the development and introduction of the tobacco plain packaging measure. It does not comprehensively examine the development of the measure but highlights aspects that are particularly relevant for the purposes of the PIR, including the problem that led to the introduction of tobacco plain packaging in Australia, and the context in which the measure was introduced.

1 The Problem

2. The following sections discuss the key elements of the problem that led to the introduction of the plain packaging measure. In brief, the conclusions of each of the following sections are that:

- Tobacco use is harmful and a key health risk factor. It remains one of the leading causes of preventable disease and premature death in Australia.
- Despite a broad range of regulatory measures being in place to reduce tobacco use, the number of Australian smokers was still unacceptably high.
- Further, to maintain or increase declines in tobacco use into the future, a comprehensive and regularly updated approach to tobacco control was required.
- As part of this comprehensive approach, the advertising and promotion of tobacco products had been increasingly restricted. However, tobacco product packaging was considered to be one of the last remaining avenues for tobacco companies to promote use of their products.
- The packaging of tobacco products could be used to increase their appeal, distract from the effectiveness of the health warnings and create misperceptions about the relative health of tobacco products.

1.1 The Harms of Smoking

3. Tobacco use is now widely accepted by authoritative sources as one of the leading causes of preventable death and disease, not only in Australia but also globally.¹¹ In 2007 the Australian Institute of Health and Welfare (AIHW) published a detailed assessment of the health of Australians and the incidence,¹² prevalence, duration, mortality and burdens of a set of major diseases experienced in Australia.¹³ The report identified the extent and distribution of health problems in Australia and quantified the contribution of key health risk factors to such problems. Based on the AIHW findings, smoking kills an estimated 15,500 Australians each year.¹⁴

¹¹ World Health Organisation, *WHO Report on the Global Tobacco Epidemic: the MPOWER Package* (2008) <http://www.who.int/tobacco/mpower/mpower_report_full_2008.pdf>, p. 8.

¹² The terms “incidence” and “prevalence” are epidemiological terms. Incidence refers to new onset of disease and the incidence rate to the frequency of occurrence of new cases over time. Prevalence is a straightforward epidemiological indicator that is the proportion of people in the population having a particular characteristic.

¹³ S. Begg, T. Vos, B. Barker, C. Stevenson, L. Stanley, and A.D. Lopez, *The Burden of Disease and Injury in Australia 2003* (Australian Government, Australian Institute of Health and Welfare, 2007), p. 76.

¹⁴ *Ibid.*

4. Since at least the landmark 1964 report of the US Surgeon General on smoking and health,¹⁵ it has been accepted that smokers are at an increased risk of dying prematurely from lung cancer. In the following decades, a large body of authoritative scientific evidence has unequivocally established that tobacco consumption and exposure to tobacco smoking causes many preventable and deadly diseases,¹⁶ including numerous cancers, heart disease, stroke, atherosclerosis and other blood vessel diseases, emphysema and other respiratory diseases.¹⁷ While cigars are often erroneously considered to be less harmful than cigarettes, smoking cigars, which can deliver nicotine in concentrations comparable to cigarettes¹⁸ and the smoke of which contains toxic and cancer causing chemicals, has also been shown to be harmful.

5. Tobacco use places increasing social and economic strain on the government and society. In 2008, Professors Collins and Lapsley undertook a comprehensive review of the costs associated with tobacco, alcohol and illicit drug abuse in Australia in 2004/05 (for the purposes of the study all tobacco use was classified as abuse as virtually all tobacco consumption is harmful).¹⁹ Professors Collins and Lapsley estimated the net costs of smoking, including ‘tangible costs’, such as lost productivity due to premature death or illness, health care, fires and abusive consumption; and intangible costs, such as psychological costs of premature deaths. The study estimated the costs of tobacco consumption in Australia in the year 2004/05 at \$31.5 billion.²⁰

6. The costs associated with tobacco consumption are expected to rise in the short term due to the lag time between exposure and smoking related disease, the growing number of diseases attributable to smoking and the increasing costs of health care.²¹

1.2 Australia’s Comprehensive Approach to Tobacco Control

7. Over the past 50 years Australian governments have progressively implemented wide-ranging evidence-based tobacco control measures at all levels of government.²² Australia has taken a broad approach, employing diverse tobacco control strategies that apply to the full range of tobacco products.²³ This is consistent with international best practice, which recommends a comprehensive approach to tobacco control. As Figure 1 demonstrates, over the last 25 years, working together these measures have successfully reduced the prevalence of smoking in Australia.

¹⁵ United States Department of Health and Human Services, *Smoking and Health: Report of the Advisory Committee to the Surgeon General* (1964).

¹⁶ As recognised in the *WHO Framework Convention on Tobacco Control*, opened for signature 21 May 2003, 2302 UNTS 166 (entered into force 27 February 2005) Preamble (WHO FCTC).

¹⁷ United States Department of Health and Human Services, [The Health Consequences of Smoking: A Report of the Surgeon General](http://www.cdc.gov/tobacco/data_statistics/sgr/sgr_2004/index.htm) (2004) <http://www.cdc.gov/tobacco/data_statistics/sgr/sgr_2004/index.htm>, pp. 8-11.

¹⁸ United States Department of Health and Human Services, National Cancer Institute, "Smoking and Tobacco Control Monograph No. 9" in D. Burns, K.M. Cummings, and D. Hoffmann (eds), *Cigars: Health Effects and Trends* (NIH Publication No 98-4302, 1998), p. 11.

¹⁹ This study used a demographic approach that compared the actual population with a hypothetical alternative population where there had been no past tobacco abuse and no current tobacco abuse. The costs estimated were associated with the year of the study only (2004/05), for example, lost production in future years due to a loss of life was not included.

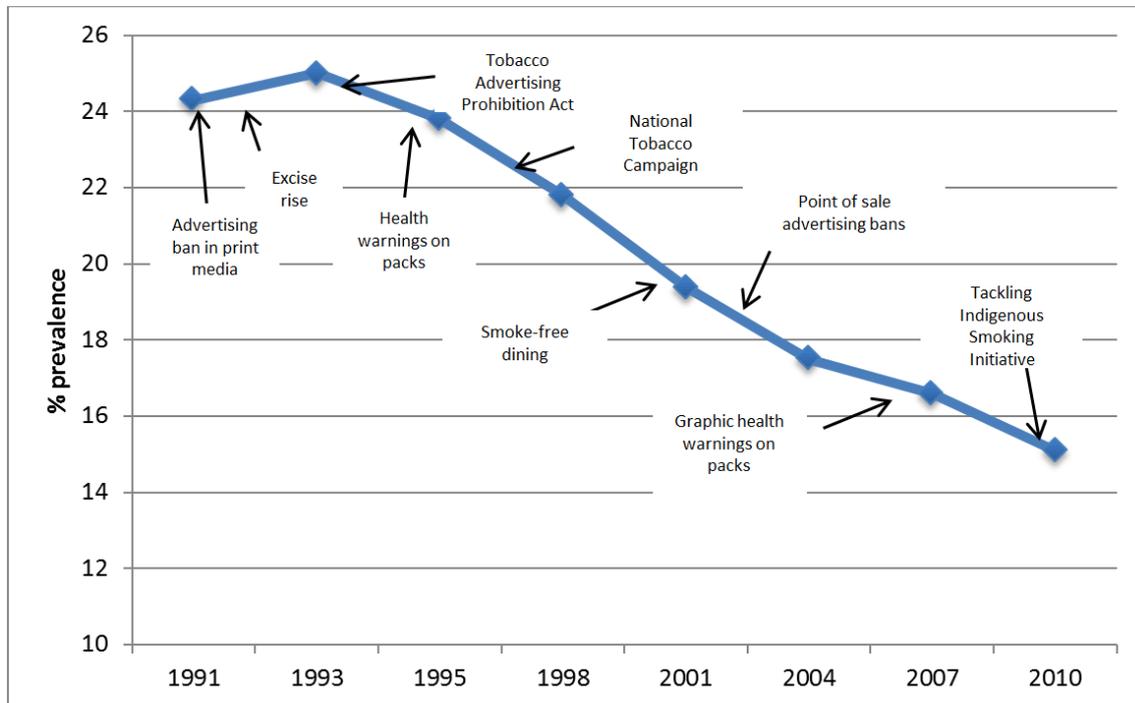
²⁰ D. Collins and H. Lapsley, *The Cost of Tobacco, Alcohol and Illicit Drug Abuse to Australian Society in 2004/05*, (Australian Government, Department of Health and Ageing, 2008), p. 65.

²¹ *Ibid.*

²² This is consistent with Australia’s obligations under the WHO FCTC.

²³ A full list of Australia’s tobacco control measures can be found at: Department of Health, [Tobacco Key Facts and Figures](http://www.health.gov.au/internet/main/publishing.nsf/content/tobacco-kff) (2015) <<http://www.health.gov.au/internet/main/publishing.nsf/content/tobacco-kff>>.

Figure 1: Smoking prevalence rates for smokers 14 years or older and key tobacco control measures in Australia from 1990-2010.²⁴



8. Despite the broad range of regulatory measures in place prior to the introduction of the tobacco plain packaging measure, the number of Australian smokers remained unacceptably high.

9. The AIHW has periodically undertaken the National Drug Strategy Household Survey (NDSHS) every three years since 1998.²⁵ The survey collects information about alcohol and tobacco consumption, and illicit drug use among the general population in Australia, with approximately 24,000 respondents in 2013. Prior to the introduction of the tobacco plain packaging measure, the NDSHS data showed that in 2010, 15.1% of Australians aged 14 years and over were daily smokers (approximately 2.8 million Australians).²⁶ When less frequent smokers were taken into account (those who smoked weekly, or less than weekly), this figure totalled 18.1% of Australians (14 years and over) – nearly 3.3 million people.²⁷ According to the NDSHS data, the average age of smoking initiation in Australia in 2010 was 15.4 years (see Figure 2). This contrasts with the legal age of smoking in Australia, which is

²⁴ Note: Figure 1 does not include an exhaustive list of Australia’s tobacco control measures. The graph shows smoking prevalence rates for smokers 14 year or older and key tobacco control measures in Australia from 1991-2010. Smoking prevalence data from Australian Institute of Health and Welfare, *National Drug Strategy Household Survey Detailed Report 2013*, Drug Statistics Series No. 28 (2014), Table 3.1: Tobacco smoking status, people aged 14 years or older, 1991 to 2013 (per cent).

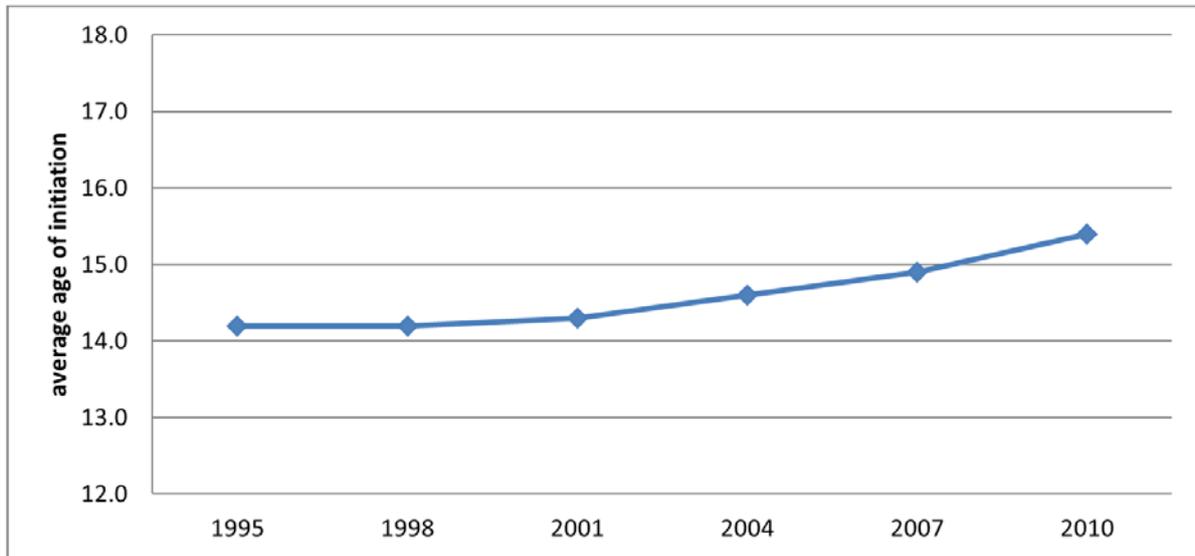
²⁵ Precursors to this survey have been undertaken every two to three years since 1985.

²⁶ Australian Institute of Health and Welfare, *2010 National Drug Strategy Household Survey Report*, Drug Statistics Series No. 25 (July 2011), Table S7.2: Daily tobacco smokers, people aged 14 and older, by state/territory, 1998 to 2013 <<http://www.aihw.gov.au/alcohol-and-other-drugs/ndshs-2013/tables/#state>>.

²⁷ Ibid.

18 years of age. Research shows that most smokers start smoking before the age of 18 and also that smokers who start smoking at an early age are more likely to continue smoking.²⁸

Figure 2: Average age of initiation of tobacco use, smokers and ex-smokers²⁹ aged 14-24 years from 1995 to 2010



10. In April 2008, the Australian Government established the National Preventative Health Taskforce (NPHT) to provide evidence-based advice to Government and health providers on preventative health programs and strategies, specifically in relation to chronic disease caused by obesity, tobacco and excessive alcohol consumption. The Taskforce was informed by a Tobacco Working Group, which was comprised of members of the Taskforce and other eminent Australian and international tobacco control experts. The Taskforce was instructed to develop “evidence-based advice...on preventative health programs and strategies, and support the development of a National Preventative Health Strategy”.³⁰

11. In 2009, the NPHT noted that, despite the positive results from Australia’s historical tobacco control measures, Australia could not become complacent and “allow the smoking epidemic to continue for another 60 years”. Rather, refreshed and revised tobacco control measures, targeting both supply and demand of all tobacco products, and removing loopholes

²⁸ S. Tyas and L. Pederson, “Psychosocial factors related to adolescent smoking: A critical review of the literatures” (1998) 7 *Tobacco Control* 409-42; Australian Institute of Health and Welfare, *National Drug Strategy Household Survey Detailed Report 2013*, Drug Statistics Series No. 28 (2014), p. 22.

²⁹ See Australian Institute of Health and Welfare, *National Drug Strategy Household Survey Detailed Report 2013*, Drug Statistics Series No. 28 (2014), Online Table 3.5: Age of initiation of tobacco use, smokers and ex-smokers aged 14–24 years, by sex, 1995 to 2013 (years). Smokers and ex-smokers includes people who reported smoking daily, weekly or less than weekly and reported having smoked at least 100 cigarettes (manufactured and/or roll-your-own) or the equivalent amount of tobacco in their life, and reports no longer smoking.

³⁰ [Australian Government National Preventative Health Taskforce, Terms of Reference](http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/terms-of-reference-11p) (2008) <<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/terms-of-reference-11p>>.

were needed to maintain the decline in tobacco use or hasten that decline into the future.³¹ Indeed, relying on the NDSHS data, the NPHT further noted that:

there has been a ‘flattening out’ in the reduction in the prevalence of smoking rates in Australia ... [b]etween 2004 and 2007 prevalence of weekly rates fell by only 1.1 percentage points (6%), compared to a drop of 2.1 percentage points (9%) over the previous three years.³²

12. For further context, the percentage point drop in daily smokers between 2007 and 2010 (the most recent NDSHS data prior to the introduction of plain packaging), was 1.5 percentage points.

13. Therefore, more was needed to be done to ensure that Australia could continue to achieve positive public health outcomes via tobacco control. The NPHT recognised that:

Evidence from Australia and overseas shows that when tobacco control efforts stall, so does the decline in smoking. There is a danger of complacency, which we can ill afford in facing up to our largest preventable cause of death and disease.³³

14. Although the Australian government had implemented a number of measures prior to the introduction of tobacco plain packaging, there remained some areas within Australia's comprehensive approach where more could be done, particularly in relation to advertising and promotion through tobacco product packaging. Those were recognised and discussed by the NPHT, as summarised in the following section.

1.3 Advertising and Promotion Impacts on Smoking Related Behaviour

15. The NPHT recognised a causal relationship between the promotion of tobacco and increased tobacco use.³⁴ The link between advertising and smoking-related behaviours, including starting smoking, quitting smoking and relapse of tobacco use, has been confirmed by successive authoritative reviews of the evidence, including by reports of the United States Surgeons General,³⁵ the United States National Cancer Institute,³⁶ the United States Institute

³¹ Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020: National Preventative Health Strategy – the Roadmap for Action* (2009)

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap>>, p. 19.

³² Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020: Discussion Paper* (2008)

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/discussion-healthiest>>, pp. 21-22.

³³ Ibid, p. 22.

³⁴ Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020 – Technical Report 2 – Tobacco Control in Australia: Making Smoking History* (2009)

<<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-tobacco>>,

pp. 18-20; Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020: National Preventative Health Strategy – the Roadmap for Action* (2009)

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap>>, pp. 179-180.

³⁵ United States Department of Health and Human Services, *Women and Smoking: A Report of the Surgeon General* (2001); United States Department of Health and Human Services, *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General* (2012).

³⁶ National Cancer Institute (United States), *Tobacco Control Monographs No. 19: The Role of the Media in Promoting and Reducing Tobacco Use* (June 2008), p. 108.

of Medicine,³⁷ and the WHO.³⁸ All of these reports reviewed substantial amounts of scientific evidence, from various fields, concerning the relationship between tobacco advertising and smoking-related behaviours.

16. The overall conclusion to be drawn from this evidence was concisely described in a 2008 report from the United States National Cancer Institute:

The total weight of evidence from multiple types of studies, conducted by investigators from different disciplines, using data from many countries, demonstrates a causal relationship between tobacco advertising and promotion and increased tobacco use, as manifested by increased smoking initiation and increased per capita tobacco consumption in the population.³⁹

17. This conclusion was recently reiterated in a 2012 US Surgeon General report:

...the weight of the evidence from extensive and increasingly sophisticated research conducted over the past few decades shows that the industry's marketing activities have been a key factor in leading young people to take up tobacco, keeping some users from quitting, and achieving greater consumption among users.⁴⁰

18. Immediately before Australia introduced tobacco plain packaging most other forms of advertising and promotion were already prohibited. The tobacco pack was therefore, one of the last remaining key sources of marketing that the tobacco industry could use to influence current and potential consumers. The NPHT Final Report, and in particular Technical Report 2, highlighted how packaging has been used as a powerful tool to market and promote smoking.⁴¹

19. There is also extensive evidence, including in tobacco industry documents, which shows that the tobacco industry uses tobacco packaging (including logos, imagery and colour) to create positive brand associations in order to promote and reinforce smoking. Industry documents confirm that tobacco companies have invested heavily in pack design, including innovative packaging, in order to communicate messages about brand identity and to appeal to specific demographic groups, especially young smokers.

³⁷ B.S. Lynch and R.J. Bonnie (eds), *Growing up Tobacco Free: Preventing Nicotine Addiction in Children and Youth* (Institute of Medicine Publication, National Academy Press, 1994), Chapter 8, p. 242.

³⁸ World Health Organisation, [WHO Report on the Global Tobacco Epidemic: the MPOWER Package](http://www.who.int/tobacco/mpower/mpower_report_full_2008.pdf) (2008) <http://www.who.int/tobacco/mpower/mpower_report_full_2008.pdf>.

³⁹ National Cancer Institute (United States), *Tobacco Control Monographs No. 19: The Role of the Media in Promoting and Reducing Tobacco Use* (June 2008), p. 16.

⁴⁰ United States Department of Health and Human Services, *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General* (2012), p. 487.

⁴¹ Australian Government National Preventative Health Taskforce, [Australia: The Healthiest Country by 2020 – Technical Report 2 – Tobacco Control in Australia: Making Smoking History](http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-tobacco) (2009) <<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-tobacco>>, pp. 20-21.

20. For example, a Philip Morris marketing presentation in 1994 stated:
- Our final communication vehicle with our smoker is the pack itself. In the absence of any other marketing messages, our packaging...is the sole communicator of our brand essence.⁴²
21. Similarly, following enactment of bans on advertising and promotion of tobacco products in Australia, RJ Reynolds recognised in 1997 that:
- [t]he most effective means Australia has had to get the consumer to notice something new post restrictions was a new/different packaging configuration.⁴³
22. A 2001 British American Tobacco document also stated:
- In some key markets legislative restrictions mean that the only medium available to communicate with consumers is via packaging. The pack becomes the primary communication vehicle for conveying the brand essence. In order to ensure the brand remains relevant to target consumers, particularly in these darkening markets, it is essential that the pack itself generates the optimum level of modernity, youthful image and appeal amongst ASU30 [Adult Smokers Under 30] consumers.⁴⁴
23. Even with the progressive restrictions on advertising and promotion, tobacco product packaging remained a key exception to Australia's prohibition on tobacco advertising as, for example, instituted under the *Tobacco Advertising Prohibition Act 1992* (the TAP Act).
24. The NPHT identified the need to address the remaining forms of tobacco advertising and promotion in Australia, including tobacco packaging.⁴⁵ This included the recommendation that tobacco plain packaging be implemented,⁴⁶ based on evidence demonstrating that:⁴⁷

⁴² Philip Morris, "Marketing issues corporate affairs conference" (27 May 1994), p. 21, Bates No. 2504015017/5042.

⁴³ R.J. Reynolds, "Australia trip: topline learning (highly restricted market)" (12 February 1997), p. 2, Bates No. 518093846/3852.

⁴⁴ British American Tobacco, "Packaging Brief" (2 January 2001), p 1, Bates No. 325211963.

⁴⁵ The recommendation made by the NPHT was also consistent with certain obligations Australia has under the WHO FCTC, as discussed in Section 2.2; Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020 – Technical Report 2 – Tobacco Control in Australia: Making Smoking History* (2009)

<<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-tobacco>>, pp. 20-21; Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020: Discussion Paper (2008)*

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/discussion-healthiest>>, p xiii.

⁴⁶ Specifically, the NPHS Roadmap recommended that the Government "[l]egislate to eliminate all remaining forms of promotion including ... promotion through packaging ..." and "[e]liminate promotion of tobacco products through design of packaging", see Australian Government National Preventative Health Taskforce, *Australia: The Healthiest Country by 2020: National Preventative Health Strategy – the Roadmap for Action* (2009) <<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap>>, key actions 3.1 and 3.4 respectively.

⁴⁷ Australian Government National Preventative Health Taskforce, *The Healthiest Country by 2020 – Technical Report 2 – Tobacco Control in Australia: Making Smoking History* (2009)

<<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-tobacco>>.

- young adult smokers associate cigarette brand names and package design with positive personal characteristics, social identity and aspirations;
- packaging can create misperceptions about the relative strength, level of tar and health risks of tobacco products;
- decreasing the number of design elements on cigarette packs reduces their appeal and perceptions about the likely enjoyment and desirability of smoking; and
- plain packaging of tobacco products would increase the salience of health warnings, make the packaging less attractive, and reduce the propensity of packaging to mislead consumers about the harmful effects of tobacco products.

2 Context to the Introduction of Tobacco Plain Packaging

25. The adoption of Australia's tobacco plain packaging measure was preceded by a policy development process that made use of the best available evidence and involved extensive consultation and debate. The measure was considered in a number of consultative forums prior to its enactment and full implementation on 1 December 2012.⁴⁸

26. By the time of adoption by Parliament, the decision to undertake a regulatory intervention on tobacco product packaging had been informed by a range of sources, including:

- The recommendations of the NPHT. In reviewing the evidence base, the addendum to Technical Report 2 contained an update on new evidence and regulatory developments in Australia and overseas, including recent evidence published in relation to tobacco plain packaging;⁴⁹
- National and international evidence on the effectiveness of plain packaging, a body of which was tabled in Parliament on 25 May 2011⁵⁰ including (but not limited to) Cancer Council Victoria's May 2011 review of evidence on tobacco plain packaging, which presented the findings of 24 published experimental studies on the likely impact of plain packaging and compiled more than 130 publications relevant to the topic of plain packaging;⁵¹
- Recommendations from GfK Bluemoon, a leading customer research company, engaged to undertake consumer and market research and prepare a research report to help inform the government's approach to new graphic health warnings and the design of plain packaged tobacco products.⁵² GfK Bluemoon carried out a number of phases of market testing on graphic health warnings and tobacco plain packaging to determine the most effective form of tobacco plain packaging.⁵³ The market testing results included that the most effective plain packaging design would be drab-dark brown packaging and a 75% graphic health warning on the front of the

⁴⁸ Following the NPHT recommendation that plain packaging be implemented three public consultation processes were conducted in relation to the introduction of the TPP Act and the associated regulations by the then Department of Health and Ageing.

⁴⁹ Australian Government National Preventative Health Taskforce, *The Healthiest Country by 2020 – Technical Report 2 – Tobacco Control in Australia: Making Smoking History* (2009) <<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-tobacco>>, Addendum, pp. 75-161.

⁵⁰ Commonwealth, *Parliamentary Debates*, House of Representatives, 25 May 2011, pp. 4570-4571 (Mr Butler).

⁵¹ Quit Victoria, Cancer Council Victoria, *Plain Packaging of Tobacco Products: A Review of the Evidence* (May 2011).

⁵² GfK Bluemoon, *Market Research to Determine Effective Plain Packaging of Tobacco Products* (August 2011).

⁵³ See for example: GfK Bluemoon, *Market Testing of Potential Health Warnings and Information Messages for Tobacco Product Packaging: Phase 1 Side of Pack Messages* (June 2010); GfK Bluemoon, *Market Testing of Potential Health Warnings and Information Messages for Tobacco Product Packaging: Phase 2 Front and Back of Pack Graphic Health Warnings* (March 2011); and GfK Bluemoon, *Market Research to Determine Effective Plain Packaging of Tobacco Products* (August 2011). GfK Bluemoon "sought to identify one plain packaging design (colour, font type, font size) that would minimise appeal and attractiveness, whilst maximising perceived harm and the noticeability of the graphic health warnings". GfK Bluemoon concluded its plain packaging research in August 2011.

pack. The market testing also supported statutory restrictions on pack shapes and openings and stick designs.

- Advice from the Expert Advisory Group on Plain Packaging (EAG), which informed the design of the tobacco plain packaging measure including the market testing. The EAG was established in September 2010 and consisted of international and national tobacco control experts and legal experts; and
- Findings by two separate parliamentary inquiries into the measure. After reviewing the evidence supporting the measure, in addition to submissions from all relevant stakeholders during public hearings, the House of Representatives Standing Committee on Health and Ageing concluded that the “evidence base as outlined by witnesses and submitters is sufficient for the initiative to proceed.”⁵⁴

2.1 Previous Studies on the Impact of Plain Packaging and Graphic Health Warnings

27. This section briefly outlines the experimental evidence base prior to the implementation of the measure.

28. At the time of the introduction of plain packaging, experimental studies had shown a link between three specific effects of plain packaging (reducing the appeal of tobacco products, increasing the effectiveness of graphic health warnings and reducing the ability of the packet to mislead consumers) and achieving public health outcomes. For example:

- In relation to the link between reducing the appeal of tobacco products and public health outcomes, research showed that a reduction in appeal and positive perceptions is associated with stronger intentions to quit using tobacco products and reduced intentions to start using tobacco products.⁵⁵ Long-standing conclusions of leading authorities such as the US Surgeon General and the WHO had also found that there is a strong relationship between tobacco advertising (and advertising bans) and changes in behaviours relating to smoking, including youth initiation (young people starting to smoke) and smoking cessation (smokers quitting tobacco products).⁵⁶

⁵⁴ House of Representatives Standing Committee on Health and Ageing, *Advisory Report on the Tobacco Plain Packaging Bill 2011 and the Trade Marks Amendment (Tobacco Plain Packaging) Bill 2011* (August 2011), para. 1.57.

⁵⁵ G.T. Fong, K.M. Cummings, R. Borland, G. Hastings, A. Hyland, G.A. Giovino, D. Hammond, M.E. Thompson, ‘The Conceptual Framework of the International Tobacco Control (ITC) Policy Evaluation Project’ (2006) 15 (Suppl. III) *Tobacco Control* pp. iii3-iii11.

⁵⁶ See United States Department of Health and Human Services, *Women and Smoking: A Report of the Surgeon General* (2001); United States Department of Health and Human Services, *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General* (2012) p. 425; United States Department of Health and Human Services, *The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General* (2014) pp. 796-798; Department of Health and Human Services, National Institutes of Health, *Tobacco Control Monograph No. 19: The Role of the Media in Promoting and Reducing Tobacco Use* (June 2008) pp. 274-275; B.S. Lynch and R.J. Bonnie (eds), *Growing up Tobacco Free: Preventing Nicotine Addiction in Children and Youth* (Institute of Medicine Publication, National Academy Press, 1994), pp. 116-131 (extract). See also R.J. Bonnie, *Ending the Tobacco Problem* (Institute of Medicine Publication, National Academy Press, 2007); World Health Organization, *WHO Report on the Global Tobacco Epidemic, 2011: Warning about the Dangers of Tobacco* (2011); World Health Organization, *WHO Report on the Global Tobacco Epidemic, 2013 Enforcing Bans on Tobacco Advertising, Promotion and Sponsorship* (2013).

- In relation to the link between the effectiveness of graphic health warnings and public health outcomes, there was a significant body of authoritative evidence supporting the view that graphic health warnings have been effective in changing the behaviour of smokers.⁵⁷ It had also been found that increasing the effectiveness of graphic health warnings influences potential customers to resist taking up tobacco products and current consumers to stop smoking.⁵⁸
- In relation to the link between reducing the ability of retail packaging to mislead consumers regarding the harmful effects of using tobacco products and public health outcomes, a published review of tobacco industry documents concluded that many smokers are misled by pack design into thinking that some cigarettes may be “safer”.⁵⁹ For example, tobacco companies market tested various designs and colours to determine those which led consumers to perceive cigarettes as being ‘mild’ or lower in strength.⁶⁰ Studies had also shown that smokers in developed countries continue to falsely believe that some cigarette brands may be less harmful than others.⁶¹ By ensuring the consumer is fully informed of the real risks and serious consequences of tobacco use, they are more likely to engage in behaviour associated with quitting tobacco use.⁶²

29. A United States National Cancer Institute study noted that plain packaging “limits the ease with which consumers associated particular images with cigarette brands and significantly influences smoking behaviour.”⁶³

⁵⁷ D. Hammond and C. Parkinson, ‘The Impact of Cigarette Package Design on Perceptions of Risk’ (2009) 31(3) *Journal of Public Health* pp. 345-353; D. Germain, M.A. Wakefield and S.J. Durkin, ‘Adolescents’ Perceptions of Cigarette Brand Image: Does Plain Packaging Make a Difference?’ (2009) 46(4) *Journal of Adolescent Health* pp. 385-392; C. Moodie and G. Hastings, ‘Making the Pack the Hero, Tobacco Industry Response to Marketing Restrictions in the UK: Findings from a Long-Term Audit’ (2011) 9(1) *International Journal of Mental Health and Addiction* pp. 24-38; M. Wakefield, C. Marley, J.K. Horan, K.M. Cummings, ‘The Cigarette Pack as Image: New Evidence from Tobacco Industry Documents’ (2002) 11 (Supp. I) *Tobacco Control* pp. i73-80; J. Hoek, C. Wong, P. Gendall, J. Louviere and K. Cong, ‘Effects of Dissuasive Packaging on Young Adult Smokers’ (2011) 20(3) *Tobacco Control* pp. 183-188; and C. Rommel, ‘The Final Warning’ (2006) 210 *World Tobacco* pp. 16-18.

⁵⁸ R. Borland, H. Yong, N. Wilson, G.T. Fong, D. Hammond, K.M. Cummings, W. Hosking and A. McNeill, ‘How Reactions to Cigarette Packet Health Warnings Influence Quitting-findings from the ITC Four-Country Survey’ (2009) 104(4) *Addiction* pp. 669-675.

⁵⁹ M.A. Wakefield, C. Morley, J.K. Horan and H.K. Cummings, ‘The Cigarette Pack as Image: New Evidence from Tobacco Industry Documents’ (2002) 11 (Supp. I) *Tobacco Control* pp. i73-i80.

⁶⁰ *Ibid.*

⁶¹ S. Mutti, D. Hammond, R. Borland, M. Cummings, R. O’Connor and G.T. Fong, ‘Beyond Light and Mild: Cigarette Brand Descriptors and Perceptions of Risk in the International Tobacco Control (ITC) Four Country Survey’ (2011) 106(6) *Addiction* pp. 1168-1175.

⁶² J. Hoek, C. Wong, P. Gendall, J. Louviere and K. Cong, ‘Effects of Dissuasive Packaging on Young Adult Smokers’ (2011) 20(3) *Tobacco Control* pp. 183-188; Quit Victoria, *Plain Packaging of Tobacco Products: A Review of the Evidence* (August, 2011); M.A. Wakefield, L. Hayes, S. Durkin and R. Borland, ‘[Introduction Effects of the Australian Plain Packaging Policy on Adult Smokers: A Cross-sectional Study](#)’ (2013) 3(7) *BMJ Open* <<http://bmjopen.bmj.com/content/3/7/e003175.full>> (accessed 20 June 2015); R. Borland, N. Wilson and G.T. Fong, D. Hammond, K.M. Cummings, H.H. Yong, W. Hosking, G. Hastings and J. Thrasher, ‘Impact of Graphic and Text Warnings on Cigarette Packs- findings from Four Countries over Five Years’ (2009) 18(5) *Tobacco Control* pp. 358-364; R. Borland, H. Yong, N. Wilson, G.T. Fong, D. Hammond, K.M. Cummings, W. Hosking and A. McNeill, ‘How Reactions to Cigarette Packet Health Warnings Influence Quitting-findings from the ITC Four-Country Survey’ (2009) 104 *Addiction* pp. 669-675.

⁶³ National Cancer Institute (United States), *Tobacco Control Monograph No. 19: The Role of the Media in Promoting and Reducing Tobacco Use* (June 2008), p. 108 (emphasis added).

30. This evidence has also been supplemented by the growing body of further studies confirming the link between achieving these three specific mechanisms and public health outcomes.⁶⁴

2.2 Australia's FCTC Obligations

31. The implementation of tobacco plain packaging was also designed to give effect to Australia's obligations under the FCTC.

32. Article 11 of the FCTC obliges Parties to require health warnings on tobacco packaging and to implement measures to eliminate the propensity of tobacco packaging to mislead consumers about the health effects of smoking.⁶⁵ Article 13 requires Parties to implement comprehensive bans on tobacco advertising, promotion and sponsorship.⁶⁶

33. Guidelines adopted by the Parties to the FCTC also recommend consideration of tobacco plain packaging as a means of implementing these obligations.⁶⁷ The Explanatory Memorandum to the TPP Bill refers specifically to these Guidelines,⁶⁸ and the then Minister for Health and Ageing highlighted Australia's commitment to the FCTC during Parliament's consideration of the TPP Bill in 2011, stating that the legislation would give effect to certain commitments under the FCTC.⁶⁹

34. Tobacco plain packaging is an effective method of fulfilling these obligations and thus helps to achieve the goal of the FCTC to protect public health and "promote measures of tobacco control based on current and relevant scientific, technical and economic considerations".⁷⁰

⁶⁴ See, e.g., K. Gallopel-Morvan, C. Moodie, D. Hammond, F. Eker, E. Beguinot and Y. Martinet, 'Consumer Perceptions of Cigarette Pack Design in France: A Comparison of Regular, Limited Edition and Plain Packaging' (2012) 21(5) *Tobacco Control* pp. 502-506; D. Hammond, J. Doxey, S. Daniel and M. Bansal-Travers, 'Impact of Female-Oriented Cigarette Packaging in the United States' (2011) 13(7) *Nicotine and Tobacco Research* pp. 579-588; D. Hammond, S. Daniel and C.M. White, 'The Effect of Cigarette Branding and Plain Packaging on Female Youth in the United Kingdom' (2013) 52 *Journal of Adolescent Health* pp. 151-157; C.M. White, D. Hammond, J.F. Thrasher and G.T. Fong, 'The Potential Impact of Plain Packaging of Cigarette Products among Brazilian Young Women: An Experimental Study' (2012) 12(737) *BMC Public Health* p. 737; K. Kotnowski, *The Impact of Standardized Cigarette Packaging among Young Women in Canada: A Discrete Choice Experiment* (Master of Science in Health Studies and Gerontology Thesis, University of Waterloo, 2013); R. Borland and S. Savvas, 'The Effects of Variant Descriptors on the Potential Effectiveness of Plain Packaging' (2013) 23(1) *Tobacco Control* pp. 58-63; D. Hammond, S. Daniel and C.M. White, 'The Effect of Cigarette Branding and Plain Packaging on Female Youth in the United Kingdom' (2013) 52(2) *Journal of Adolescent Health* pp. 151-157; M.A. Wakefield, L. Hayes, S. Durkin and R. Borland, '[Introduction Effects of the Australian Plain Packaging Policy on Adult Smokers: A Cross-sectional Study](http://bmjopen.bmj.com/content/3/7/e003175.full)' (2013) 3(7) *BMJ Open*. <<http://bmjopen.bmj.com/content/3/7/e003175.full>> (accessed 20 June 2015).

⁶⁵ WHO FCTC, Article 11.

⁶⁶ *Ibid*, Article 13(1).

⁶⁷ In 2008, the Conference of the Parties to the WHO FCTC adopted by consensus two sets of guidelines that recommend consideration of tobacco plain packaging as a means of implementing the obligations outlined in Articles 11 and 13. The relevant Guidelines note that plain packaging "may increase the noticeability and effectiveness of health warnings", see WHO FCTC, *Guidelines for Implementation*, Article 11 (p. 59), and "eliminate the effects of advertising or promotion on packaging", see WHO FCTC, *Guidelines for Implementation*, Article 13 (p. 95).

⁶⁸ Explanatory Memorandum, Tobacco Plain Packaging Bill 2011 (Cth), p. 2.

⁶⁹ Commonwealth, *Parliamentary Debates*, House of Representatives, 6 July 2011, p. 7710 (Nicola Roxon, Minister for Health and Ageing).

⁷⁰ WHO FCTC, Preamble.

3 Objectives of Government Action

3.1 The Objectives of the Tobacco Plain Packaging Measure

35. The overarching objective of standardising the retail packaging and appearance of tobacco products through the tobacco plain packaging measure is to contribute to improving public health by, ultimately, reducing smoking and people's exposure to tobacco smoke. This is to be achieved via three specific mechanisms: reducing the appeal of tobacco products to consumers; increasing the effectiveness of health warnings; and reducing the ability of the retail packaging of tobacco products to mislead consumers about the harmful effects of smoking or using tobacco products. The measure also aimed to fulfil certain obligations Australia has under the FCTC (as explained in [section 2.2](#) above).

36. These objectives are set out in the TPP Act.⁷¹ Specifically, section 3 provides that:

3 Objects of this Act

(1) The objects of this Act are:

(a) to improve public health by:

(i) discouraging people from taking up smoking, or using tobacco products; and

(ii) encouraging people to give up smoking, and to stop using tobacco products; and

(iii) discouraging people who have given up smoking, or who have stopped using tobacco products, from relapsing; and

(iv) reducing people's exposure to smoke from tobacco products; and

(b) to give effect to certain obligations that Australia has as a party to the Convention on Tobacco Control.

(2) It is the intention of the Parliament to contribute to achieving the objects in subsection (1) by regulating the retail packaging and appearance of tobacco products in order to:

(a) reduce the appeal of tobacco products to consumers; and

(b) increase the effectiveness of health warnings on the retail packaging of tobacco products; and

(c) reduce the ability of the retail packaging of tobacco products to mislead consumers about the harmful effects of smoking or using tobacco products.⁷²

⁷¹ The government also outlined the rationale for the tobacco plain packaging measure in the Explanatory Memorandum, Tobacco Plain Packaging Bill 2011 (Cth), p. 2.

⁷² *Tobacco Plain Packaging Act 2011* (Cth), s 3.

3.2 Alternative Tobacco Control Policy Options

37. The NPHT recommended a range of tobacco control measures as part of a comprehensive approach.⁷³ A number of these measures have since been implemented in Australia, including increasing the excise payable on tobacco, prohibiting internet advertisements of tobacco products, committing spending to anti-smoking marketing campaigns and community control projects, and enhancements to the graphic health warning requirements in Australia.⁷⁴ In relation to tobacco advertising and promotion on tobacco packaging (considered to be one of the last remaining forms of tobacco advertising in Australia), the only measure recommended by the NPHT was tobacco plain packaging.⁷⁵

⁷³ Australian Government National Preventative Health Taskforce, [Australia: The Healthiest Country by 2020: National Preventative Health Strategy – the Roadmap for Action](http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap) (2009)

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap>>, Chapter 3.

⁷⁴ Department of Health and Ageing, [Taking Preventative Action - A Response to Australia: The Healthiest Country by 2020](http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/6B7B17659424FBE5CA25772000095458/File/tpa.pdf) (May 2010)

<<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/6B7B17659424FBE5CA25772000095458/File/tpa.pdf>>, pp. 61-85.

⁷⁵ Australian Government National Preventative Health Taskforce, [Australia: The Healthiest Country by 2020: National Preventative Health Strategy – the Roadmap for Action](http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap) (2009)

<<http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap>>, p. 181.

Part II: Stakeholder Consultations

4 The Consultation Process

38. The Department engaged an external consultant, Siggins Miller Consultants Pty Ltd (Siggins Miller), to consult with stakeholders and seek their views on the impact of the tobacco plain packaging measure (consultation process). The full results of the consultations are contained in the Stakeholder Consultation Report (Appendix B). The Consultation Report was used to inform the assessment of the impact of the measure on stakeholders and its effectiveness and efficiency in meeting its objectives. All stakeholder's views and submissions were considered when preparing this PIR.

39. Siggins Miller undertook consultations with stakeholders on behalf of the Department from 16 February to 27 March 2015. Advertisements inviting participation in the consultation process were communicated to the general public and stakeholders via newspapers, social media, industry communications, and on the Department's website. Key stakeholders were also approached directly, including major tobacco companies, major retailers and public health organisations. In brief, the consultations included interviews, written submissions, and an online survey. Industry representatives and government agencies also took part in a costing survey to estimate the costs associated with the measure.

40. Stakeholders were asked for their views on the impact of the measure in relation to the objectives of improving public health⁷⁶ and in relation to the three specific mechanisms.⁷⁷ They were also able to provide their views on any other matters they deemed relevant. The stakeholders that participated in the costing survey provided additional detail on the material impacts of the tobacco plain packaging measure on them. This data was used to help quantify, where possible, the estimated costs and benefits of the measure.

4.1 Stakeholders Consulted

41. A range of stakeholders were invited to take part in the consultation process, including:

- The tobacco industry – tobacco companies, wholesalers and importers and packaging manufacturers;
- Retailers of tobacco;
- Public health organisations and experts;
- Non-governmental organisations (NGOs);
- Government departments and agencies; and
- Consumers/individuals.

42. While all stakeholders were given the opportunity to provide their views to inform the PIR some opted not to participate in the consultation process. In particular, a number of key industry stakeholders and major retailers declined to be interviewed and/or elected not to

⁷⁶ As set out in sub-section 3(1)(a) of the TPP Act.

⁷⁷ As set out in sub-section 3(2) of the TPP Act.

submit costing information, despite multiple attempts to engage with them and an extension of time being provided to submit costing data.

4.2 Limitations on the Results of Consultations

43. The results of the consultation must be considered in the context of the limitations of the consultation process and data supplied by stakeholders. The PIR consultation process was designed to elicit the views of those who were interested in expressing a view about the impact of the tobacco plain packaging measure. As such, the views expressed by respondents do not necessarily reflect the views of a representative sample of the Australian population or stakeholder groups. Each submission must be evaluated in light of the evidence proffered as supporting it, including the nature of the sources relied upon.

44. It is difficult to assess how representative some submissions are. For example around 70 retailers responded out of an estimated 35,000 retailers in Australia. Additionally, almost 90% of the 412 consumers who responded to the online survey identified themselves as 'current smokers' which is not representative of the proportion of the Australian population who smoke. Accordingly, the PIR draws qualitatively on the views of those who participated and the themes that arose from the consultations, but no statistical weight can be placed on the numerical results of the consultation.

4.3 Results of Consultations

45. Stakeholder views on the effectiveness and efficiency of tobacco plain packaging in meeting its objectives were diverse and highly polarised. This section briefly summarises the outcomes of the stakeholder consultations. The summary highlights the dominant themes emerging from the various stakeholders. However within each stakeholder category there were also some respondents with views that differed from the dominant viewpoint. For example, a small number of stakeholders in each category were 'unsure' or provided no response to some questions. The full range of views and detail of the submissions of stakeholders (including any evidence relied upon) is contained in the Stakeholder Consultation Report. These have also been taken into account and informed the PIR's analysis of the impact of tobacco plain packaging.

46. The overwhelming majority of public health organisations and experts, government department stakeholders and health related NGOs reported that the tobacco plain packaging measure was achieving its objectives in an effective and efficient manner. For example:

- Their general view was that tobacco plain packaging has had some, or a significant, impact on reducing the appeal of tobacco products, increasing the effectiveness of graphic health warnings, and reducing the ability of retail packaging to mislead consumers about the harmful effects of smoking.
- They also thought that tobacco plain packaging, as part of a comprehensive suite of tobacco control measures, has had some impact and could be expected, in the longer term, to have a significant impact on discouraging people from taking up smoking, encouraging people to stop smoking and discouraging them from relapsing. In particular, they pointed to the evidence of the measure's positive impact on the

specific mechanisms as showing that it is likely to have an impact on the longer-term objectives.

- These stakeholders also believed that the tobacco plain packaging measure will lead to reducing people's exposure to smoke from tobacco products by reducing the overall number of people smoking. Most public health organisations and experts also pointed to changes in social norms around smoking as also leading to reduced exposure to smoke.
- Most of these stakeholders reported they believed that the tobacco plain packaging measure has been somewhat or very efficient in achieving its objectives. One health related NGO also noted that the measure was particularly efficient in rural and remote areas where other tobacco control measures may have less reach.

47. Some of these stakeholders did not provide responses to certain questions regarding the impact of the measure. The public health organisations/experts and government departments who provided 'unsure' responses to some of the questions regarding the impact of the measure, generally stated they were unfamiliar with the relevant evidence or believed there was no evidence to date regarding the impact of the measure. For example, one public health organisation, one public health expert, and one health-related NGO were unsure of the measure's impact on the up-take of smoking. They believed that it was too early to assess whether the specific mechanisms have had an impact on the measure's longer-term objectives. Similarly, the public health organisation and expert stakeholders who were unsure of the measure's impact on reducing exposure to tobacco smoke said that they were not aware of any relevant evidence and thought that it would be difficult to determine the measure's direct impact on this objective.

48. One public health expert was of the view that the impact of the measure on the appeal of tobacco products will depend on the person's level of nicotine dependence. That is, in their view, people who are highly dependent on nicotine are likely to be driven to continue smoking by additional factors other than product packaging. In contrast, another public health expert reported that their patients had a significantly reduced affinity for their 'packet of cigarettes' and had fewer cravings from seeing or handling plain packaged cigarettes as compared to previous quit attempts with branded packages.

49. Tobacco industry stakeholders, retailers, non-health related NGOs and most individual respondents generally took a negative view on the impact of tobacco plain packaging. For example:

- While many of these stakeholders believed that plain packaging had reduced the appeal of tobacco 'packaging', in their view this had to be differentiated from the appeal of tobacco 'products'. Most industry stakeholders and individual respondents thought that packaging played very little, if any, role in a person's decision to stop using tobacco products.
- These stakeholders also generally did not believe that tobacco packaging was misleading prior to the implementation of the tobacco plain packaging measure and thus questioned the need for plain packaging to address concerns regarding misleading tobacco packaging.

- Many of these stakeholders also said they believed that graphic health warnings had been made more prominent by plain packaging, however they questioned whether this would lead to less people smoking.
- These stakeholders were largely of the view that tobacco plain packaging has not discouraged uptake, encouraged quitting or discouraged relapse.
- The submissions from these stakeholders generally emphasised that their view was that since the introduction of tobacco plain packaging smoking incidence has increased, prevalence has remained the same, and consumption and expenditure has remained the same or increased.

50. Some retailers reported that they believed that the tobacco plain packaging measure reduces the appeal of tobacco products to new customers. They cited their own experience of declining sales since 2012, fewer youth purchases of cigarettes and customer feedback in support of this view. Some retailers also said they were unsure whether the measure had reduced appeal as they were not familiar with the relevant evidence.

51. One wholesaler and importer reported anecdotal evidence that the measure has encouraged people to give up smoking. A small number of retailers and individual respondents also reported that they believed the measure had some impact on the basis that the more salient health warnings convey the dangers of smoking and are likely to encourage people to give up smoking and provided anecdotal evidence that they have known people who quit smoking as a result of the measure and more prominent health warnings.

52. Some stakeholders from these stakeholder groups, and also from the ‘unspecified’ and ‘other’ categories, indicated they believe that the health risks associated with smoking are universally known and have been for a long time, therefore they saw no reason to suggest that tobacco plain packaging and larger graphic health warnings would deter people from smoking. However, some respondents in these stakeholder groups also indicated they believe that the measure had an initial impact on smokers as demonstrated by consumers avoiding particular graphic health warnings when purchasing tobacco products, and consumers decanting cigarettes from packets or hiding their packets to avoid the graphic health warnings.

53. Some retailers, non-health related NGO stakeholders and individual respondents, one tobacco wholesaler and importer and one tobacco packaging manufacturer also expressed their views that:

- health warnings were more noticeable as a result of the measure (although some thought that their effectiveness may reduce over time); and
- their experience with smokers suggested that they are put-off by enhanced graphic health warnings and in some cases have used graphic health warnings to assist them to quit.

54. A small number of retailers who participated in the consultations indicated that they believe that the measure has had some or a significant impact on reducing the ability of the retail packaging of tobacco products to mislead consumers. One retailer said that tobacco plain packaging has successfully reduced tobacco companies’ ability to market the product as

anything other than what it is. Some retailers who participated in the consultations believe that tobacco plain packaging is still misleading as it does not include nicotine and tar levels on packaging.

55. Some tobacco wholesalers and importers, a small number of retailers and some individual respondents believed the measure has had some impact on discouraging people from taking up smoking. Some of the views expressed by these groups included that the measure acts as a deterrent to those who have not taken up smoking by making health warnings more prominent, reducing the ‘glamour’ and ‘attractiveness of smoking’, and having a negative effect on people’s perceptions of smoking and smokers.

56. Most retailers and non-health related NGOs reported that they believed that the same numbers of people (or more) were smoking and therefore other people’s exposure to smoke has not changed. There were a small number of retailers and individual respondents who were unsure whether the measure has had an impact on exposure to smoke. They said that smoking had been declining in any event and that it would be difficult to determine whether the measure has had an impact on exposure.

57. Some retailers and individual respondent stakeholders believed that the measure has caused inefficiencies at the point of sale and said that it takes retailers longer to identify brands and can result in the sale of incorrect products to customers. Some retailers also stated that it now takes longer to check that they have received the correct stock. At the same time, one stakeholder group that represented a large number of retailers reported that the measure has not had an on-going impact on the businesses they represented. They also noted that they received assistance from tobacco companies during the measure’s introduction to minimise its impact on their staff and customers.

58. All stakeholders indicated that they believe that there are a range of reasons why people quit smoking including: price, desire to improve health, pressure from family and friends, other tobacco control measures (for example, education campaigns and smoke-free environments) and on-going public debate. Some of the respondents across all stakeholder groups also reported that they believed that smoke-free environment legislation has had the greatest impact on reducing people’s exposure to smoke from tobacco products.

59. Some stakeholders also identified what they believed to be other impacts of the tobacco plain packaging measure (for example, including consumers allegedly switching to cheaper brands or alleged increases in illicit tobacco use).

60. Stakeholders provided a range of reasons, and relied on varying sources, to support their submissions. These are all extensively canvassed in the Stakeholder Consultation Report and have informed the assessment of the impact of tobacco plain packaging and its effectiveness and efficiency in meeting its objectives.

Part III: Assessment of the Tobacco Plain Packaging Measure

61. This Part sets out the assessment of the impact of the tobacco plain packaging measure in its first few years of operation carried out for the purposes of the PIR.

62. This Part of the PIR proceeds by assessing the measure's impact by analysis of:

- The change in smoking prevalence since the 2012 changes to tobacco packaging;
- The post-implementation published studies and data sources; and
- The impact on industry, government and community (including using the regulatory burden measurement).

63. Consistent with Australian government guidance,⁷⁸ this assessment considered a wide range of information including information collected from the stakeholder consultations (including evidence relied upon to support stakeholders' views) (Appendix B), peer reviewed evidence, other publicly available data, and the estimates derived using the Regulatory Burden Measurement framework and analysis of the broader costs and benefits of the measure (Appendix C), in order to reach a conclusion on the overall effectiveness and efficiency of the measure and whether it remains an appropriate regulatory intervention.

64. The PIR required a holistic assessment of the measure, such that the accuracy of the claims made by stakeholders and the various strengths and quality of the sources relied upon have been considered as part of the analysis of the stakeholder consultations. This includes in particular: the independence of a source, the authority or credentials of its authors, the public or confidential nature of data relied upon, its peer reviewed status,⁷⁹ and the consistency of the findings of a source with the entire body of evidence.

⁷⁸ Australian Government Office of Best Practice Regulation, *Guidance Note: Post-Implementation Reviews* (July 2014).

⁷⁹ Peer-review is a multiple filtering process articles go through before being published in academic journals. This process includes the work being evaluated by experts in relevant fields to ensure it is rigorous and coherent before it is published, as is recognised as best standard in academic publishing.

5 Impact on Public Health

65. This section assesses the tobacco plain packaging measure's effectiveness in meeting its public health objectives. In assessing the impact of the tobacco plain packaging measure on improving public health, it is important to assess its effectiveness in reducing the appeal of tobacco products, increasing the effectiveness of health warnings, and reducing the ability of the pack to mislead as to harms, as these are the early indicators as to whether the measure is working as intended and therefore of the measure's overall effectiveness.

66. The following section outlines:

- The findings of studies that were undertaken in Australia after implementation of the tobacco plain packaging measure; and
- Smoking prevalence and consumption datasets and data on expenditure, market, clearance and sales.

67. It should be noted this section does not conduct a comprehensive review of the experimental evidence available on the effectiveness of tobacco plain packaging, which has been undertaken elsewhere,⁸⁰ but has used such reviews to inform the conclusions reached below.

5.1 Findings of post-implementation studies on the impact of the tobacco plain packaging measure

68. A number of studies were undertaken in Australia following the implementation of the tobacco plain packaging measure that analysed its impact. The research has generally focused on both the achievement of the specific mechanisms as well as changes in the behaviours of smokers. The studies discussed in sub-sections 5.1.1 through to 5.1.7 are peer reviewed studies that have been published in leading medical journals and were used to evaluate the impact of the measure.

5.1.1 Studies analysing the National Tracking Survey

69. The National Tracking Survey was a national, monthly tracking survey of smokers and recent quitters undertaken by the Centre for Behavioural Research in Cancer, Cancer Council Victoria, and funded by the Department. It ran between April 2012 and May 2014. It was established for the purpose of assessing the short to mid-term effects of tobacco plain packaging. The survey focused on current smokers and recent quitters⁸¹ aged 18 to 69 years. Respondents to the survey were interviewed twice, with a four-week gap between baseline and follow up interviews. This short time period between interviews limits the ability of the survey data to be used to examine the longer-term impacts expected of the measure. The survey data are most suited to assessing changes in the specific mechanisms of the measure.

70. One study using the survey data examined the impact of the tobacco plain packaging measure on all three specific mechanisms of the measure, namely reducing the appeal of

⁸⁰ See the studies discussed below.

⁸¹ Recent quitters were defined as including people who had quit in the last 12 months prior to the survey being conducted.

tobacco products, increasing the effectiveness of health warnings and reducing the ability of packaging to mislead about smoking harms.⁸²

71. The study investigated the measure's impact on the appeal of tobacco products by asking smokers to: rate the extent to which they liked the look of their current pack and to rate their current tobacco product in terms of quality, satisfaction, value for money and appeal of the packaging; and to rate whether they believe brands differ in prestige and taste. Compared with prior to the implementation of the measure, the study found standardised packs to be associated with "rapid and substantial changes in the direction of reduced appeal",⁸³ with these results being sustained throughout the first year of full implementation of the measure. In relation to three key indicators relating to appeal of tobacco products (pack dislike, quality and satisfaction), young adults also showed a greater reduction in appeal than other age groups.

72. The same study found that graphic health warnings became more noticeable during the transition period between plain and branded packs and this was maintained throughout the first year of implementation. The study found that, following the implementation of the measure there was a sustained increase in the number of smokers who reported concealing their packs or decanting their tobacco products and that there was an immediate and sustained increase in smokers requesting different graphic health warnings when purchasing cigarettes.

73. Further, the study found an increase in the number of smokers who correctly believed that brands of tobacco products did not differ in harmfulness following the measure's implementation. However the study did note that there was no change in the smokers' perception of the harm of their current tobacco products compared with one year previously, and no change in their belief about different variants of a brand being different in strength.

74. The study concluded that among adult smokers "the first two objectives of the [plain packaging measure]...relating to reducing appeal and increasing GHW [graphic health warning] effectiveness have been achieved".⁸⁴ The study also concluded that the third objective of reducing the extent to which smokers are misled about the harms of smoking has been partially met. The authors suggested that perceptions of harmfulness may continue to be maintained through brand and variant names which emphasise colour and product characteristics and that future regulation may be needed to address this.

75. Another study analysing data from the National Tracking Survey, examined the relationship between the mechanisms and quitting-related thinking and behaviours.⁸⁵ The study found that there were correlations between baseline measures of reduced appeal of

⁸² M. Wakefield, K. Coomber, M. Zacher, S. Durkin, E. Brennan and M. Scollo, 'Australian Adult Smokers' Responses to Plain Packaging with Larger Graphic Health Warnings 1 Year After Implementation: Results from a National Cross-sectional Tracking Survey' (2015) 24(2) *Tobacco Control* pp. ii17-ii25.

⁸³ *Ibid*, p. ii20.

⁸⁴ *Ibid*, p. ii24.

⁸⁵ E. Brennan, S. Durkin, K. Coomber, M. Zacher, M. Scollo and M. Wakefield, 'Are quitting-related cognitions and behaviours predicted by proximal responses to plain packaging with larger health warnings? Findings from a national cohort study with Australian adult smokers' (2015) 24 *Tobacco Control* pp. ii33-ii41.

tobacco products, increased effectiveness of graphic health warnings, and feeling more smoking related concern than enjoyment, and quitting-related thoughts and behaviours.

76. A further study analysed the results of the National Tracking Survey to examine the effects of plain packaging on short-term changes in quitting-related thoughts and behaviours.⁸⁶ The study found that plain packaging with larger graphic health warnings increased pack avoidance, smokers stopping themselves from smoking, and quit attempts during the transition period, and increased levels of pack avoidance, stubbing out prematurely, and quit attempts in the first year of implementation.

5.1.2 Study analysing the New South Wales Tracking Survey

77. A study analysed the results of the New South Wales Tobacco Tracking Survey, to investigate the impact of Australia's tobacco plain packaging measure on two of the specific mechanisms – increasing the impact of health warnings and decreasing the promotional appeal of packaging – among adult smokers.⁸⁷ The NSW Tracking Survey is a serial cross-sectional telephone survey involving approximately 50 interviews conducted per week throughout the year. The survey monitored smoking-related thoughts and behaviours among adult smokers and recent quitters in NSW.

78. This study analysed survey responses of 15,375 randomly selected adult smokers between April 2006 and May 2013 and found that there was a “significant increase in the proportion of smokers strongly disagreeing that the look of their cigarette pack is attractive..., says something good about them..., makes their brand stand out..., is fashionable..., and matches their style”.⁸⁸ The study found that changes in these outcomes were maintained up until the end of the survey period being examined (the survey period ended six months after the implementation of the tobacco plain packaging measure).

79. The study also found that 2-3 months after the introduction of tobacco plain packaging there was a significant increase in the absolute proportion of smokers having strong cognitive, emotional and avoidant responses to on-pack health warnings. For example there was a significant increase in the proportion of smokers strongly agreeing with statements regarding the warnings: causing them to worry that they should not be smoking (emotional response), encouraging them to stop smoking (cognitive response) and making them feel they should hide or cover their packet (avoidant response).

80. The study concluded that the early effects of the tobacco plain packaging measure among adult smokers are consistent with reduced promotional appeal of the packaging and increased effectiveness of health warnings.

⁸⁶ S. Durkin, E. Brennan, K. Coomber, M. Zacher, M. Scollo and M. Wakefield, ‘Short-term changes in quitting-related cognitions and behaviours after the implementation of plain packaging with larger health warnings: Findings from a national cohort study with Australian adult smokers’ (2015) 24 *Tobacco Control* pp. ii26-ii32.

⁸⁷ S. Dunlop, T. Dobbins, J. Young, D. Perez and D. Currow, [‘Impact of Australia's Introduction of Tobacco Plain Packs on Adult Smokers' Pack-related Perceptions and Responses: Results from a Continuous Tracking Survey’](http://bmjopen.bmj.com/content/4/12/e005836.full) (2014) 4(12) *BMJ Open* <<http://bmjopen.bmj.com/content/4/12/e005836.full>> (accessed 21 June 2015).

⁸⁸ *Ibid*, p. 5.

5.1.3 Analysis of the International Tobacco Control Policy Evaluation Project Data

81. Another study reviewed the data from the Australian component of the International Tobacco Control (ITC) Policy Evaluation Project (ITC Project) before and after the implementation of the measure, in relation to the impact of enlarged graphic health warnings.⁸⁹ The ITC Project conducts longitudinal cohort surveys to assess the impact, and identify the determinants of, effective tobacco control policies in more than 20 countries. Data from the ITC Project from one wave prior to the implementation of plain packaging, conducted between September 2011 and February 2012, and one wave after the implementation of plain packaging, conducted between February and May 2013 were analysed. In order to assess health warning effectiveness, respondents were asked a set of questions relating to attention towards the health warnings, salience of the health warnings, and the effect of health warnings on consumers' thoughts, behaviours and intentions towards quitting.

82. This study found that plain packs with enlarged health warnings made the warnings more attention grabbing with more smokers noticing health warnings first and current smokers noticing the new warnings significantly more than the older ones. However, there was no change in frequency of reading the text on the warning labels among current smokers. The study also found that the larger graphic health warnings stimulated more reactions to the packs, with an increased number of smokers thinking about the harms caused by tobacco use and thinking about quitting since the introduction of the 2012 packaging changes. The authors noted that these reactions serve as an important pathway through which the effects of other reactions to the graphic health warning exert their influence on quit intentions. There was also some evidence of greater avoidance behaviour such as covering up the health warnings, keeping them out of sight, using a cigarette case or avoiding certain warnings, which the authors noted have previously been shown to be indirectly associated with those people more likely to attempt quitting. The study concluded that overall the net effect of tobacco plain packaging and larger graphic health warnings appears to be positive, although there are some indications that the effects might be smaller than anticipated.

5.1.4 Studies analysing the 2013 Australian Secondary Students Alcohol Smoking and Drug (ASSAD) Survey extension⁹⁰

83. A study analysed the results of the 2013 Australian Secondary Students Alcohol Smoking and Drug (ASSAD) Survey extension to determine whether there had been changes to adolescents' perceptions of cigarette packs and brands, since the introduction of tobacco plain packaging and enlarged graphic health warnings.⁹¹ The 2013 ASSAD Survey extension

⁸⁹ H-H. Yong, R. Borland, D. Hammond, J.F. Thrasher, K.M. Cummings and G.T. Fong, '[Smokers' Reactions to the New Larger Health Warning Labels on Plain Cigarette Packs in Australia: Findings from the ITC Australia Project](http://tobaccocontrol.bmj.com/content/early/2015/02/19/tobaccocontrol-2014-051979.full)' (2015) *Tobacco Control*. Published Online First <<http://tobaccocontrol.bmj.com/content/early/2015/02/19/tobaccocontrol-2014-051979.full>> (accessed 20 October 2015)

⁹⁰ Section 5.2.1.3 below also discusses the most recent ASSAD survey data which has not yet been the subject of a published academic analysis.

⁹¹ V. White, T. Williams M. and Wakefield, 'Has the Introduction of Plain Packaging with Larger Graphic Health Warnings Changed Adolescents' Perceptions of Cigarette Packs and Brands?' (2015) 24 *Tobacco Control* pp. ii42-ii49.

was a follow-up survey of students attending secondary schools that participated in the 2011 ASSAD Survey in Victoria and Queensland. In total 82 schools across both states participated. The 2013 survey extension was designed to compare attitudes to cigarette packaging before and after the introduction of the tobacco plain packaging measure, and included questions about beliefs and attitudes about cigarette packaging, ratings of popular cigarette brands, noticing health warnings on cigarette packs, awareness of the specific harms of tobacco use, and perceptions of the prevalence of smoking and intention to smoke.

84. The study found that significantly fewer students in 2013 compared to 2011 agreed that “some brands have better looking packs than others” (25% in 2013 as compared with 43% in 2011), with larger decreases found among smokers. It also found a reduction in positive perceptions regarding brand characteristics and a significant increase in negative pack image ratings following the introduction of plain packaging among Australian adolescents who had seen cigarette packs in the previous six months. Compared with the pre-implementation period, the study also reported higher levels of uncertainty regarding whether brands differed in ease of being smoked. The study’s results suggest that 7-12 months after the introduction of the 2012 packaging changes, the changes had reduced the appeal of cigarette packs and were beginning to reduce the pack’s ability to communicate messages about the characteristics of the cigarettes to adolescents.

85. Another study analysed the impact of the plain packaging of cigarettes and enhanced graphic health warnings on Australian adolescents’ consideration of warnings and awareness of different health consequences of smoking.⁹² The study compared the results from the 2011 and 2013 ASSAD surveys in relation to indicators such as students’ perceptions of the health consequences of smoking, their mental processing of health warnings including thoughts and attention paid to the warnings, and the students’ smoking habits.

86. The study found that adolescent mental processing of warning information did not increase following health warning enlargement. This result is in contrast to the result of several studies of Australian adult smokers, which found among other things an increase in strong cognitive, emotional and avoidant responses to graphic health warnings since the introduction of tobacco plain packaging.⁹³

⁹² V. White, T. Williams, A. Faulkner M. Wakefield, ‘Do Larger Graphic Health Warnings on Standardised Cigarette Packs Increase Adolescents’ Cognitive Processing of Consumer Health Information and Beliefs about Smoking-related Harms?’ (2015) 24 *Tobacco Control* pp. ii50-ii57.

⁹³ The authors of this study account for the differences in the results of studies of adults compared to studies of adolescents as being due to “the greater involvement [that] adult smokers have with smoking compared with adolescents.”, see V. White, T. Williams, A. Faulkner and M Wakefield, ‘Do Larger Graphic Health Warnings on Standardised Cigarette Packs Increase Adolescents’ Cognitive Processing of Consumer Health Information and Beliefs about Smoking-related Harms?’ (2015) 24 *Tobacco Control* pp. ii50-ii57, p. ii56. As adult smokers have higher daily smoking rates, they access and use cigarette packs far more frequently than most adolescents. Also many adult smokers want to quit and use graphic health warnings for motivation for doing so. In contrast see S. Dunlop, T. Dobbins, J. Young, D. Perez and D. Currow, ‘[Impact of Australia's Introduction of Tobacco Plain Packs on Adult Smokers' Pack-related Perceptions and Responses: Results from a Continuous Tracking Survey](#)’ (2014) 4(12) *BMJ Open* <<http://bmjopen.bmj.com/content/4/12/e005836.full>> (accessed 21 June 2015); M. Wakefield, K. Coomber, M. Zacher, S. Durkin, E. Brennan and M. Scollo, ‘Australian Adult Smokers' Responses to Plain Packaging with Larger Graphic Health Warnings One Year After Implementation: Results from a National Cross-sectional Tracking Survey’ (2015) 24 *Tobacco Control* pp. ii17-ii25.

87. The study also found a statistically significant increase in the proportion of adolescents agreeing that smoking causes bladder cancer, a health impact of smoking not depicted in graphic health warnings before 2012. The authors report that this increase is notable given that the warning only started appearing on substantial numbers of packs quite late in the survey period.

5.1.5 Analysis of cigar and cigarillo smokers

88. The impact of tobacco plain packaging and enlarged graphic health warnings on cigar and cigarillo smokers has also been examined.⁹⁴ A study involving both qualitative and quantitative research methods found that tobacco plain packaging with enlarged graphic health warnings reduced the appeal of tobacco packaging, increased the noticeability of graphic health warnings, and somewhat reduced misperceptions as to the level of harm of certain products. Half of the respondents in an online survey component of the study also reported a lower “appeal of packaging” and more than a third reported lower “value for money” than before the 2012 packaging changes. The study’s authors also reported that there were several indications that the new packaging was challenging the view that cigars were less harmful than cigarettes.

89. The cigar and cigarillo study also reported positive indications that the 2012 packaging changes may have increased the frequency of self-reported quitting thoughts and behaviours. For example smokers of non-premium cigarillos reported increased thoughts about quitting and in the online survey component of the study some cigar and cigarillo smokers reported that they smoked less often than prior to the 2012 packaging changes.

90. The study’s authors reported that overall, the study provided evidence that when cigar and cigarillo smokers were exposed to tobacco plain packaging it influenced these smokers in ways that were consistent with the three specific mechanisms.⁹⁵

5.1.6 Analysis of calls to Quitlines

91. Calls to quit smoking hotlines have also been analysed to examine changes in behaviour resulting from the implementation of the tobacco plain packaging measure. A study compared the weekly number of calls to Quitline in NSW and the ACT at the time of introduction of graphic health warnings in 2006 and tobacco plain packaging in 2012 and compared the impact of the different measures on intentions to quit and behaviours.⁹⁶

92. The study found a 78% increase in the number of calls to the Quitline in NSW following the introduction of tobacco plain packaging and enlarged graphic health warnings. The increase was sustained for a significantly longer period of time than the increase experienced following the introduction of graphic health warnings in 2006. The increase was

⁹⁴ C.L. Miller, K.A. Ettridge and M.A. Wakefield, ‘You’re Made to Feel Like a Dirty Filthy Smoker when You’re Not, Cigar Smoking is Another Thing Altogether Responses of Australian Cigar and Cigarillo Smokers to Plain Packaging’ (2015) 24 *Tobacco Control* pp. ii58-ii65.

⁹⁵ Ibid.

⁹⁶ J. Young, I. Stacey, T. Dobbins, D. Dunlop, A. Dessaix and D. Currow, ‘Association Between Tobacco Plain Packaging and Quitline Calls: A Population-based, Interrupted Time-series Analysis’ (2014) 200(1) *Medical Journal of Australia* pp. 29-32.

also not attributable to anti-tobacco advertising activity, cigarette price increases or other identifiable causes. The study was able to disentangle these potential causes by using associated indicators such as statistics of exposure to advertisements, the costliness ratio of cigarettes to average weekly earnings, and data on smoking prevalence.

5.1.7 Analysis of cigarette pack displays and smoking in outdoor venues

93. The Cancer Council Victoria undertook an observational survey of the prevalence of cigarette pack display and smoking in outdoor venues in Victoria and South Australia between October 2011 and April 2012 and again between October 2012 and April 2013 and in 2014. The study reported on active smoking rates and personal display of cigarette packs on tables observed among patrons of venues with outdoor seating (visible from the footpath) before and after the introduction of tobacco plain packaging.

94. Two studies have been published comparing the survey's findings before and after the implementation of plain packaging. The first study reported a "significant decline" in the extent to which a pack was placed face up, as well as a significant increase in the degree to which packs were concealed by phones, wallets or other items after the introduction of plain packaging.⁹⁷ The study also found a reduction in active smoking in outdoor restaurants, bars and café settings (particularly in venues where children were present). For example, the study found that pack display "declined by 15%" driven largely by a "reduction in the rate of active smoking", and that the "decline in pack display coincided with the full implementation of plain packaging from December 2012".⁹⁸ The second study confirmed that these "declines in personal pack display and active smoking at outdoor public venues were maintained one year after the introduction of tobacco plain packaging with refreshed and enlarged graphic health warnings".⁹⁹ It found that "1 in every 8.7 patrons displayed a tobacco pack [prior to plain packaging and]...this declined to...1 in 10.3 patrons 1 year" after the introduction of plain packaging.¹⁰⁰

95. The authors' conclusions include that, "[t]his effect is likely to reduce smoking-related social-norms, thereby weakening an important influence on smoking uptake and better supporting quit attempts."¹⁰¹

5.1.8 Industry-commissioned reports

96. During consultations one tobacco company stakeholder provided three reports prepared by SLG Economics, which the tobacco company had commissioned.¹⁰² The most recent of the SLG reports criticised a number of the findings summarised above including:

⁹⁷ M. Zacher, M. Bayly, E. Brennan, J. Dono, C. Miller, S. Durkin, M. Scollo and M. Wakefield, 'Personal Tobacco Pack Display Before and After the Introduction of Plain Packaging with Larger Pictorial Health Warnings in Australia: An Observational Study of Outdoor Café Strips' (2014) 109 *Addiction* pp 653-662.

⁹⁸ *Ibid*, p. 659.

⁹⁹ M. Zacher, M. Bayly, E. Brennan, J. Dono, C. Miller, S. Durkin, M. Scollo and M. Wakefield, 'Personal Pack Display and Active Smoking at Outdoor Café Strips: Assessing the Impact of Plain Packaging 1 Year Post Implementation' (2015) 24 *Tobacco Control* p. ii96.

¹⁰⁰ *Ibid*, p. ii96.

¹⁰¹ *Ibid*, p. ii94.

- In relation to the appeal of tobacco products, the SLG report concluded that a number of different measures from the National Tracking Survey and NDSHS suggest that tobacco plain packaging was not successful in reducing the appeal of tobacco products and that the evidence was mixed in relation to the effectiveness of health warnings.¹⁰³
- In relation to effectiveness of health warnings, the SLG report compares NSW Tracking Survey data from 2012 to 2014, critiques the peer-reviewed study of the NSW Tracking Survey data described above, and states that the data does not show an increase in the effectiveness of health warnings following the implementation of tobacco plain packaging.¹⁰⁴
- In relation to the ability of the packaging to mislead about the harms of smoking, the SLG report concluded that the results from the National Tracking Survey do not point to a strong impact of tobacco plain packaging in either direction.¹⁰⁵

97. The SLG reports provided limited information on the methodology used and contradict the findings of peer-reviewed and published academic studies that have been prepared by recognised experts in public health and tobacco control.

5.1.9 Conclusion on post-implementation studies

98. Taken as a whole, the studies summarised in the preceding sections provide early evidence that the tobacco plain packaging measure is having a positive impact on the three specific mechanisms of reducing the appeal of tobacco products, reducing the potential for tobacco packaging to mislead consumers, and enhancing the effectiveness of graphic health warnings. Studies also provide early evidence that the measure is resulting in positive changes to smoking behaviours. The body of evidence is diverse, including analyses conducted on a range of different groups (including adolescents, adults, cigarette smokers and cigar/cigarillo smokers) and using different datasets (including the National Tracking Survey, the NSW Tracking Survey, the ASSAD data, the ITC Project data and bespoke surveys).

5.2 Prevalence, consumption, expenditure and market data

99. There are a number of data sources that track tobacco use and sales in Australia. This section provides an overview of the various relevant data sources categorised as relating

¹⁰² SLG Economics, *Standardised Packaging of Tobacco Products: Review of Department of Health Impact Assessment* (August 2014). SLG Economics, *Standardised packaging of Tobacco Products: Review of Department of Health Impact Assessment* (January 2015). SLG Economics, *Review of Evidence on the Introduction of Plain Packaging of Tobacco Products in Australia* (June 2015). The first of the SLG reports was commissioned by a tobacco company to be provided as part of a submission to the consultation process for the United Kingdom's impact assessment of standardised packaging of tobacco products. The second and third SLG reports contain updated analysis of additional survey data that became available to the authors.

¹⁰³ SLG Economics, *Review of Evidence on the Introduction of Plain Packaging of Tobacco Products in Australia* (June 2015), pp. 8-12.

¹⁰⁴ *Ibid.*, pp. 5-8.

¹⁰⁵ *Ibid.*, p. 14.

either to smoking prevalence and consumption; or expenditure, market, clearance and sales data.¹⁰⁶ In particular, the following data sources are discussed:

- Roy Morgan survey data;
- National Drug Strategy Household Survey;
- Australian Secondary Schools survey;
- National Health Survey;
- State health departments' smoking prevalence surveys;
- Australian Taxation Office (ATO) and Australian Customs and Border Protection; Service (Customs) clearance data;
- Australian Bureau of Statistics data;
- Euromonitor data;
- InfoView data; and
- Aztec sales data.

100. The major datasets on smoking prevalence are discussed below. All of these show continuing declines in smoking prevalence with substantial declines in the period following the introduction of tobacco plain packaging. Analysis of the Roy Morgan Research data undertaken for the Department (described below) concludes that the 2012 packaging changes have already contributed to the overall decline in smoking prevalence and that over time these impacts will increase.¹⁰⁷

101. It will take a longer time period for the full impact of the tobacco plain packaging measure – particularly on the next generation of children who will have never been exposed to tobacco advertising and promotion on tobacco packaging – to be reflected in initiation rates and then in smoking prevalence rates. This is because changes to initiation rates are slower to be fully reflected in prevalence statistics.¹⁰⁸

5.2.1 Smoking prevalence and consumption data

5.2.1.1 Roy Morgan Single Source Survey Data

102. Roy Morgan Research (Roy Morgan) conducts ongoing, nationally representative, monthly surveys on a range of topics including smoking and collects data about broader

¹⁰⁶ It should also be noted that a number of surveys have been undertaken and datasets compiled since the implementation of the tobacco plain packaging measure. The specific results of each are not directly comparable across datasets/institutions given the differences in methodology, age cohorts, timing and sample sizes (including across age cohorts).

¹⁰⁷ Experiences from other countries demonstrate that it may take several years for the effects of tobacco control measures to be seen in prevalence data. See, e.g., Canada's experience with graphic health warnings, the full effect of which was not discerned until years after implementation, S. Azagba and M. Sharaf, 'The Effect of Graphic Cigarette Warning Labels on Smoking Behaviour: Evidence from the Canadian Experience' (2013) 15(3) *Nicotine & Tobacco Research* pp. 708-717; J. Huang, F. Chaloupka and G. Fong, 'Cigarette Warning Labels and Smoking Prevalence in Canada: A Critical Examination and Reformulation of the FDA Regulatory Impact Analysis' (2014) 23 (Supp.) *Tobacco Control* pp. i17-12; D. Hammond, G.T. Fong, P.W. McDonald, R. Cameron and K.S. Brown, 'Impact of the Graphic Canadian Warning Labels on Adult Smoking Behaviour' (2003) 12(4) *Tobacco Control* pp. 391-395.

¹⁰⁸ C.E. Gartner, J.J. Barendregt and W.D. Hall, 'Predicting the Future Prevalence of Cigarette Smoking in Australia: How Low Can We Go and by When?' (2009) 18(3) *Tobacco Control* pp. 183-189.

socio-demographic variables (such as financial position and marital status) which enable analysis of the smoking population in Australia.

103. While plain packaging is a long term measure, the full effects of which are not expected to be realised so soon after its implementation, available data shows that smoking prevalence has declined sharply in the period following the introduction of the 2012 packaging changes. To ascertain what contribution, if any, the 2012 packaging changes made to these declines, the Department engaged Dr Tasneem Chipty of Analysis Group, Inc.,¹⁰⁹ to analyse the Roy Morgan data covering the period from 1 January 2001 to 30 September 2015 to see if a contribution from plain packaging could be detected at this early stage.

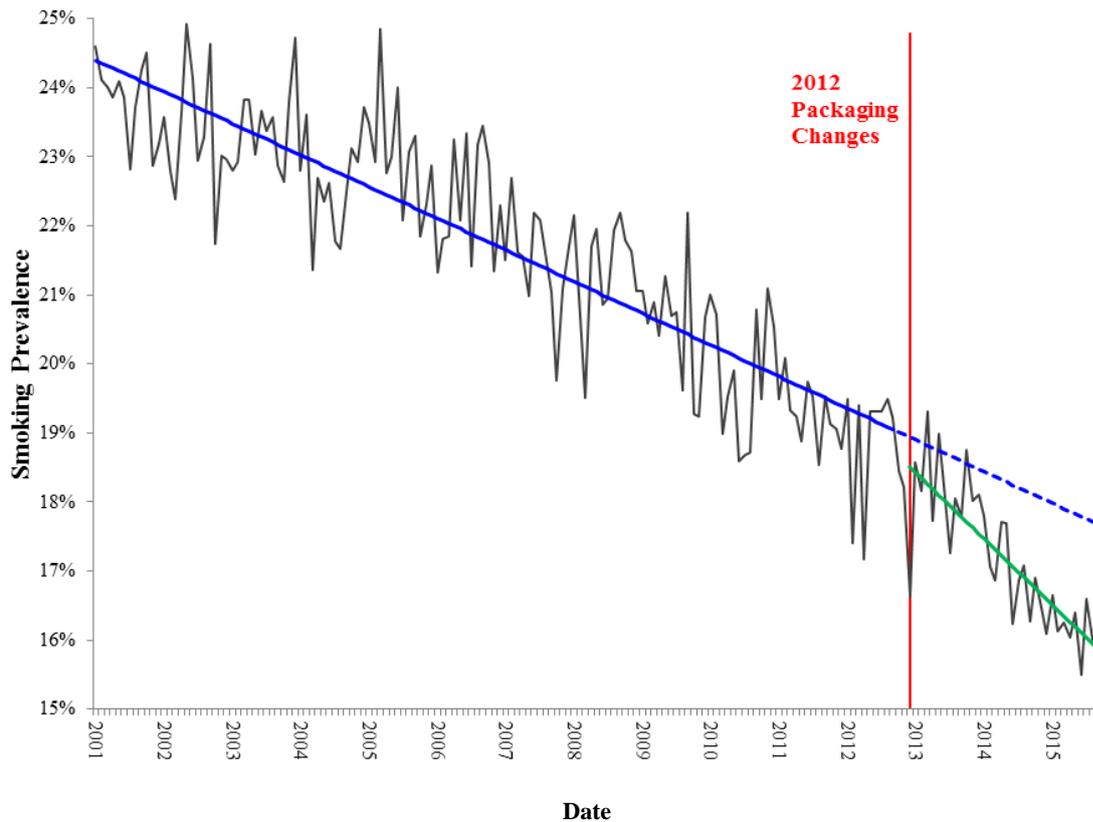
104. Both of the 2012 packaging changes are designed to reduce smoking levels and to work in concert with each other. Indeed, one of the aims of plain packaging is to make graphic health warnings more effective. As noted by Dr Chipty, due to the timing of the 2012 packaging changes it is not possible to identify separately the effects of tobacco plain packaging and enlarged and updated graphic health warnings on smoking prevalence without making restrictive assumptions. The analysis undertaken was, however, able to estimate the impact of both measures working in concert from other aspects of Australia's comprehensive approach to tobacco control, such as excise increases.

105. Figure 3 below plots the monthly overall smoking prevalence rates from the Roy Morgan data, with two separate trend lines for before and after the introduction of the 2012 packaging changes. The chart shows the overall decline in smoking prevalence in Australia over the last fifteen years and provides some indication that the "decline in prevalence has accelerated in recent years."¹¹⁰

¹⁰⁹ An economic and business consulting firm with particular expertise and experience in econometric analysis.

¹¹⁰ *Ibid*, para. 25.

Figure 3: Overall Monthly Smoking Prevalence (January 2001 to September 2015)¹¹¹



106. To estimate the impact of the 2012 packaging changes on the declines in smoking prevalence after implementation a “before-after” regression analysis of the Roy Morgan data was performed. The analysis disentangles the effects of multiple factors that may simultaneously be influencing observed smoking prevalence rates and “identifies the effect of the [2012] packaging changes by comparing smoking behaviour before the policy to smoking behaviour after” implementation.¹¹² The regression analysis accounted for the rollout of other tobacco control measures (such as the 2006 introduction of graphic health warnings and the various excise increases),¹¹³ socio-demographic factors (such as gender, marital status, age, education, income and work status),¹¹⁴ and a trend over time.¹¹⁵

107. Dr Chipty’s analysis estimated that the 2012 packaging changes reduced average smoking prevalence among Australians aged 14 years and over by 0.55 percentage points.¹¹⁶

¹¹¹ Ibid, Figure 1 (p. 12). Note: Data are weighted using the population weights in the RMSS data. Source: RMSS data (January 2001 – September 2015).

¹¹² Appendix A, T. Chipty, *Study of the Impact of the Tobacco Plain Packaging Measure on Smoking Prevalence in Australia* (January 2016), para. 11.

¹¹³ Ibid, paras. 20-21.

¹¹⁴ Ibid, para. 22.

¹¹⁵ Ibid, para. 23.

¹¹⁶ Ibid, para. 32. Note that changes in smoking prevalence can be reported in a variety of ways including by reference to *percentage point* changes and *percent* changes. *Percentage point* refers to the simple numerical difference between two percentages (e.g. the percentage point difference between 40% and 50% is calculated by subtracting 40 from 50, giving a 10 percentage point increase). *Percent* refers to the relative difference between the two figures (e.g. the percent difference between 40% and 50% is calculated by dividing the difference between 40 and 50 (i.e. 10) by 40 and multiplying the result by 100, giving a 25% increase).

This result was statistically significant. The model predicts that without the 2012 packaging changes average smoking prevalence in the post-implementation period would have been 17.77% as opposed to 17.21% with the 2012 packaging changes.¹¹⁷

108. The report also noted that the estimated “effect is likely understated and is expected to grow over time.”¹¹⁸ The effect is likely understated as the model accounts for a trend over time, which the 2012 packaging changes will influence.¹¹⁹ Therefore some of the effects of the 2012 packaging changes will be credited to the time trend. The effect is also expected to grow over time as “changes in initiation, cessation, and relapse affect only a subset of current and future smokers, and as such, their effects are slower to appear in population measures of smoking prevalence.”¹²⁰

109. To put the estimated decline in smoking prevalence attributable to the 2012 packaging changes in context, Dr Chipty also estimated the change in average smoking prevalence in Australia in the 34 months before the 2012 packaging changes to the 34 months after the packaging changes.¹²¹ Average smoking prevalence in the 34 months prior to the introduction of the 2012 packaging change was estimated to be 19.4%, with average smoking prevalence in the after period being 17.2%. This is a total decline in average prevalence between the two periods of 2.2 percentage points. According to Dr Chipty, “the [2012] packaging changes should be credited with about 0.55 percentage points (or about 25 percent)” of that 2.2 percentage point decline.¹²²

110. Dr Chipty concluded that the “evidence shows that [the] 2012 packaging changes are succeeding in reducing smoking prevalence beyond trend ... [and this] evidence supports the conclusion that the TPP Act is having its intended effect.”¹²³

111. In addition to the analysis commissioned by the Department, a subset of the same Roy Morgan data up to December 2013 was also analysed in industry-commissioned working papers by Professors Kaul and Wolf.¹²⁴ The papers conclude that there had been no impact of plain packaging on 14-17 year olds and that there had been no lasting impact of the tobacco plain packaging measure on those aged 14 years and older. These papers have been the subject of significant criticism by other academic experts, including in peer-reviewed

¹¹⁷ Ibid. Note: the difference between 0.55 percentage points and 0.56 percentage points, based on a difference between 17.77% and 17.21%, is due to rounding. The actual difference is 0.55 percentage points (see *ibid*, footnote 32).

¹¹⁸ Ibid, para. 36.

¹¹⁹ Ibid, para. 23.

¹²⁰ Ibid, para. 9.

¹²¹ Ibid, para. 33.

¹²² Ibid.

¹²³ Ibid, para. 36.

¹²⁴ A. Kaul and M. Wolf, ‘The (Possible) Effect of Plain Packaging on the Smoking Prevalence of Minors in Australia: A Trend Analysis’ (Working Paper No. 149, University of Zurich, Department of Economics, 2014), p. 1 states that “Philip Morris International provided the funding for this research”; A. Kaul and M. Wolf, ‘The (Possible) Effect of Plain Packaging on Smoking Prevalence in Australia: A Trend Analysis’ (Working Paper No. 165, University of Zurich, Department of Economics, 2014), p. 1 states that “Philip Morris International provided the funding for this research”.

journals.¹²⁵ For example, criticisms include the low statistical significance of the analytical methods used.¹²⁶

112. A recent peer reviewed article also re-analysed the data Professors Kaul and Wolf relied upon using “a more appropriate statistical method”,¹²⁷ including accounting for the potential effect of other key tobacco control measures. The article found that the conclusions of Professors Kaul and Wolf (that there had been no decrease in smoking prevalence after the introduction of tobacco plain packaging), were incorrect and based upon “subtle circular reasoning”.¹²⁸

113. The authors conclude that the 2012 packaging changes were in fact associated with a “clear and statistically significant reduction in smoking prevalence” and that the impact of the measure “appears to have been even greater than expected”.¹²⁹ These findings are consistent with the findings of Dr Chipty’s analysis, which made use of more recent Roy Morgan data up to and including September 2015 (an extra almost two years of data) and also found a statistically significant drop associated with the 2012 packaging changes.

¹²⁵ For example see A. Laverty, P. Diethelm, N. Hopkins, H. Watt and M. McKee, ‘Use and Abuse of Statistics in Tobacco Industry-funded Research on Standardised Packaging’ (2015) 24 *Tobacco Control* pp. 422-424; OxyRomandie, ‘[Errors and Issues with Kaul and Wolf’s Two Working Papers on Tobacco Plain Packaging in Australia](http://tobaccotactics.org/images/2/25/20150129-oxyromandie-letter-to-rector-uzh-annex.pdf)’ (29 January 2015) <<http://tobaccotactics.org/images/2/25/20150129-oxyromandie-letter-to-rector-uzh-annex.pdf>>; Cancer Council Victoria, ‘Comments on Kaul & Wolf “[The \(Possible\) Effect of Plain Packaging on the Smoking Prevalence of Minors in Australia: A Trend Analysis](https://www.cancervic.org.au/downloads/tobacco_control/2013/Cancer_Council_Victoria_comments_on_Kaul_Wolf.pdf)”’ (26 March 2014) <https://www.cancervic.org.au/downloads/tobacco_control/2013/Cancer_Council_Victoria_comments_on_Kaul_Wolf.pdf>.

¹²⁶ A. Laverty, P. Diethelm, N. Hopkins, H. Watt and M. McKee, ‘Use and Abuse of Statistics in Tobacco Industry-funded Research on Standardised Packaging’ (2015) 24 *Tobacco Control* pp. 422-424. See also Cancer Council Victoria, ‘[Comments on Kaul & Wolf “The \(Possible\) Effect of Plain Packaging on the Smoking Prevalence of Minors in Australia: A Trend Analysis](https://www.cancervic.org.au/downloads/tobacco_control/2013/Cancer_Council_Victoria_comments_on_Kaul_Wolf.pdf)”’ (26 March 2014) <https://www.cancervic.org.au/downloads/tobacco_control/2013/Cancer_Council_Victoria_comments_on_Kaul_Wolf.pdf>.

¹²⁷ P. Diethelm and T. Farley, ‘Refuting Tobacco-industry Funded Research: Empirical Data Shows a Decline in Smoking Prevalence Following the Introduction of Plain Packaging in Australia’ (2015) 6 *Tobacco Prevention & Cessation* p. 3.

¹²⁸ *Ibid.*, p. 9.

¹²⁹ *Ibid.*

5.2.1.2 National Drug Strategy Household Survey

114. The NDSHS is the leading survey of licit and illicit drug use in Australia and since 1998 has been undertaken by the AIHW, an independent statutory authority.¹³⁰

115. The 2013 NDSHS collected data from nearly 24,000 people across Australia from 31 July to 1 December 2013, (notably, after the introduction of the tobacco plain packaging measure and mostly before the first of a series of four 12.5% tobacco excise increases on 1 December 2013).¹³¹ The results of the 2013 NDSHS show that daily smoking prevalence among Australians aged 14 years and over has fallen significantly from 15.1% in 2010 to 12.8% in 2013, a drop of 15%. This included declines in all Australian states and territories (except Tasmania).

116. The results of the 2013 NDSHS also showed that:

- the number of people smoking daily in 2013 fell significantly by approximately 200,000 people (from 2.7 million in 2010 down to 2.5 million in 2013);
- the proportion of people reporting never smoking rose significantly from 58% in 2010 to 60% in 2013; and
- the average number of cigarettes smoked per week significantly declined from 111 in 2010 to 96 cigarettes in 2013.¹³²

117. The NDSHS data also shows that:

- young people are delaying the age at which they take up smoking, with the average age at which young people report having smoked their first full cigarette increasing significantly from 15.4 years in 2010 to 15.9 years in 2013; and
- children's exposure to second hand smoke declined with the proportion of households with dependent children where someone smoked inside the home falling significantly from 6.1% in 2010 to 3.7% in 2013.

118. These results show a significant decline in prevalence from 2010 to 2013, a period that includes 12 months of tobacco plain packaging being in effect, as well as a significant drop in children's exposure to smoke, which is consistent with the measure working as intended.

119. During the consultation process some industry stakeholders cited the NDSHS as demonstrating that youth smoking has increased since the introduction of plain packaging.¹³³ The NDSHS reports a rise in the number of 12-17 year olds smoking in the 2010-2013

¹³⁰ Australian Institute of Health and Welfare *National Drug Strategy Household Survey Detailed Report 2013* Drug Statistics Series No. 28 (2014), p. 3. Precursors to this survey have been undertaken every two to three years since 1985.

¹³¹ The next NDSHS is expected to be conducted in 2016 with results released no earlier than 2017.

¹³² Australian Institute of Health and Welfare *National Drug Strategy Household Survey Detailed Report 2013* Drug Statistics Series No. 28 (2014).

¹³³ See, Appendix B, Siggins Miller, Stakeholder Consultation Report (September 2015), p. 31.

reporting period. The NDSHS report states that this rise is not statistically significant and that this particular number should be interpreted with caution.¹³⁴

120. One tobacco company stakeholder also cited a 2015 Europe Economics review,¹³⁵ which they had commissioned, to support their view that the measure has not been successful.¹³⁶ In relation to prevalence data (both national and state-based datasets), the review states that the majority of these datasets show a fall in prevalence after the introduction of tobacco plain packaging. The review goes on to state that absent further analysis little can be concluded from this, because prevalence was in any event falling prior to the introduction of the measure. The report does not rule out the continued decline being consistent with tobacco plain packaging working as intended.

5.2.1.3 Australian Secondary Students' Alcohol and Drug (ASSAD) survey

121. The Australian Secondary Students' Alcohol and Drug (ASSAD) survey is a triennial national survey, first conducted in 1984, that assesses licit and illicit substance use among secondary school students aged 12 -17 years old. The 2014 ASSAD survey collected data from approximately 23,000 students who were selected using a random sampling methodology designed to represent students from public, Catholic and independent schools. The recently released report 'Australian secondary schools students' use of tobacco in 2014', analysed the results of the 2014 ASSAD survey in relation to students' tobacco use and related behaviours including smoking prevalence, buying habits and brand preferences.

122. Table 1 outlines the results of the 2014 ASSAD Survey in relation to key indicators of smoking and tobacco use compared with the results for these indicators in the 2011 and 2008 surveys.

¹³⁴ Australian Institute of Health and Welfare, [National Drug Strategy Household Survey Detailed Report 2013 Drug Statistics Series No. 28 \(2014\), p. 21](#), and supplementary online tables available at <http://www.aihw.gov.au/publication-detail/?id=60129549469&tab=3>.

¹³⁵ The Europe Economics document reviews existing analyses of the impacts of plain packaging including papers commissioned or published by tobacco companies, peer reviewed articles (including a number of sources that are discussed in this PIR), and national datasets including the NDSHS. The 2015 Europe Economics review largely replicates and summarises the results of these other documents and does not add any new substantive analysis of the relevant data.

¹³⁶ See, Appendix B, Siggins Miller, Stakeholder Consultation Report (September 2015), p. 38.

Table 1: Percentage of students (12-17 years) involved with different levels of tobacco use involvement.¹³⁷

Tobacco use	2008	2011	2014
Lifetime	27.3	23.3	19.1 ^{***#}
Smoked at least 100 cigarettes in lifetime	3.8	3.5	2.7 ^{***#}
Past month	10.1	8.9	7.5 ^{***#}
Current smokers (smoked in past seven days)	7.3	6.7	5.1 ^{***#}
Committed smokers (Smoked on 3+ days in past seven days)	4.4	3.6	2.8 ^{***#}
Smoked daily in past seven days	1.9	1.8	1.2 ^{***#}
Daily smokers among current smokers	26.7	26.5	23 ^{***#}

123. The analysis found that there was a general pattern of decreasing prevalence, with 2014 prevalence estimates significantly lower than those in 2011 and 2008.¹³⁸ There were also decreases in the number of students involved in every different type of tobacco use surveyed,¹³⁹ including a statistically significant increase in the number of students who have never smoked, finding that in 2014 94% of 12-year-olds, 78% of 15-year olds and 61% of 17-year-olds had no experience with smoking.

124. There was also a statistically significant decrease in the number of students who have smoked less than 100 cigarettes in their lifetime, are current smokers, are committed smokers and past month smokers.

125. Identification of the factors which may be associated with the reduction in smoking prevalence is beyond the scope of the study.¹⁴⁰, however these results show a significant decline in a range of tobacco use indicators among young people since the last survey was completed in 2011. These results are consistent with the tobacco plain packaging measure working as intended, particularly in relation to young people.

¹³⁷ A “**” indicates where there has been a statistically significant decrease between the 2011 results and the 2014 results. “#” indicates a statistically significant decrease between 2008 results and 2014 results. V. White, T. Williams, *Australian Secondary School Students’ Use of Tobacco in 2014* (October 2015) <[http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/BCBF6B2C638E1202CA257ACD0020E35C/\\$File/Tobacco%20Report%202014.PDF](http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/BCBF6B2C638E1202CA257ACD0020E35C/$File/Tobacco%20Report%202014.PDF)>, Table 6.1 (amended) p. 37.

¹³⁸ Ibid, p. 34; Incorporates all tobacco use including lifetime, past month, past seven days, Committed smokers (Smoked on three + days in past seven days) and daily smokers.

¹³⁹ The different categories in the report are: Lifetime, Smoked at least 100 cigarettes in lifetime, Past month, Current smokers (smoked in past seven days), Committed smokers (Smoked on three + days in past seven days), Smoked daily in past seven days, Daily smokers among current smokers.

¹⁴⁰ V. White, T. Williams, *Australian Secondary School Students’ Use of Tobacco in 2014* (October 2015) <[http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/BCBF6B2C638E1202CA257ACD0020E35C/\\$File/Tobacco%20Report%202014.PDF](http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/BCBF6B2C638E1202CA257ACD0020E35C/$File/Tobacco%20Report%202014.PDF)>, p. 41.

5.2.1.4 National Health Survey

126. In December 2015, the Australian Bureau of Statistics (ABS) released key findings from the 2014-15 National Health Survey (NHS) that show smoking rates have continued to decline since the previous survey in 2011-12.¹⁴¹ The 2014-15 NHS is the seventh in a series of Australia-wide health surveys conducted by the ABS since 1989-90 that are designed to collect a range of health information from Australian households. The 2014-15 NHS collected information from around 19,000 Australians between June 2014 and July 2015.

127. The first results from the 2014-15 NHS show that daily smoking prevalence among Australians aged 18 years and over has fallen to 14.5% in 2014-15, declining from 16.1% in 2011-12, 18.9% in 2007-08, and 22.4% in 2001. The survey results also report that the number of Australians smoking daily aged 18 and over has also declined down to approximately 2.6 million in 2014-15, from 2.8 million in 2011-12.¹⁴²

5.2.1.5 State results

128. A number of state governments and state based health organisations also undertake surveys periodically in relation to smoking and smoking related behaviours. These studies are based on different methodologies and survey different age groups (i.e. starting at age 14, 15, 16 or 18). As such, the state results are not comparable to each other. Given the recent implementation of the tobacco plain packaging measure and the small sample sizes of these studies, on a year-to-year basis they do not provide sufficiently sensitive results to measure accurate changes in prevalence over the relevant time period.¹⁴³ That is, none of the relevant changes in prevalence in the datasets are statistically significant, as the confidence intervals around the prevalence estimates all overlap between the years examined. Notwithstanding the potential shortcomings in the use of the state-based data for the purpose of evaluating a national measure such as tobacco plain packaging, for completeness available state-based data has been included at Table 2. In contrast to the state-based data, the NDSHS data is a nationwide dataset, it has a large sample size and uses a consistent methodology throughout all states. The results of the NDSHS on a state by state basis show declines in smoking prevalence in seven of the eight states or territories, and statistically significant declines in NSW, Victoria and WA. Table 3 outlines the daily smoking rate on a state by state basis for daily smokers aged 14 and above as reported in the NDSHS data.

¹⁴¹ Australian Bureau of Statistics, [National Health Survey: First Results, 2014-15](http://www.abs.gov.au/ausstats/abs@.nsf/mf/4364.0.55.001) (4364.0.55.001, 8 December 2015) <<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4364.0.55.001>>.

¹⁴² Note the difficulties in comparing results across datasets explained in footnote 105 above, which also account for differences in prevalence figures between datasets such as between the NHS and NDSHS.

¹⁴³ For further information on state surveys see Cancer Council Victoria, [‘Facts Sheet No. 4: What is Happening to Prevalence of Smoking in Australia?’](https://www.cancervic.org.au/downloads/plainfacts/Facts_sheets/Facts_Sheet_no._4_PrevalenceNov15.pdf) (2015) <https://www.cancervic.org.au/downloads/plainfacts/Facts_sheets/Facts_Sheet_no._4_PrevalenceNov15.pdf>, pp. 10-12.

Table 2: Daily Smoking Prevalence of Adults as a Percentage in Australian States and Territories based on State-based surveys.¹⁴⁴

State/Territory	2011	2012	2013	2014
NSW ¹⁴⁵	14.7	17.1	16.4	15.6
Vic ¹⁴⁶	12.8	11.7	n.d	n.d
Qld ¹⁴⁷	14.8	14.3	15.8	14
WA ¹⁴⁸	11.1	9.8	10.9	n.d
SA ¹⁴⁹	17.6	16.7	19.4	15.7
Tas ¹⁵⁰	n.d	n.d	11.9	n.d
ACT	No ACT studies for this period			
NT ¹⁵¹	No NT wide studies for this period			

¹⁴⁴ Note: 'n.d.' signifies that no data is available from the relevant state-based survey for the specified time period.

¹⁴⁵ Note: For the [NSW survey](#), adults are individuals 16 years of age and over. Significant differences that were observed between 2011 and 2012 should also be used with caution, as they will reflect both real and design changes. Conducted by Computer Assisted Telephone Interview. 2011 (n=13,023, 95% CI 13.7-15.8), 2012 (n=13,186, 95% CI 15.6-18.6), 2013 (n=13,001, 95% CI 15.3-17.4), 2014 (n=12,677, 95% CI 14.6-16.6). Data available from <http://www.healthstats.nsw.gov.au/Indicator/beh_smo_age>.

¹⁴⁶ Note: For the Victorian survey, adults are individuals 18 years and over. Landline sample only. 2011 (n=3500, 95% CI of ± 1.1) and 2012 (n=3126, 95% CI of ± 1.1). Data for 2011-2012 from E. Bain, S. Durkin, M. Wakefield, 'Smoking Prevalence and Consumption in Victoria: Key Findings from the 1998-2012 Population Surveys', (July 2013), *CBRC Research Paper Series*, No. 45, p. 9. The latest Victorian Department of Health survey was in 2008.

¹⁴⁷ Note: For the Queensland survey, adults are individuals 18 years of age and over. 2011 (n=10,361, 95% CI 13.9-15.7), 2012 (19,781 adults 16+ participated with response rate of 81%, unclear how many responded to smoking questions, 95% CI 13.5-15.2), 2013 (n=7,791 for the report but it is unclear how many answered smoking questions, 95% CI 14.6-17.1), 2014 (n=14,787 for the report but it is unclear how many answered smoking question, 95% CI 12.7-15.3). Data from [Queensland Preventive Health Surveys](#) is available from <<https://www.health.qld.gov.au/epidemiology/publications/phs-qld.asp>>.

¹⁴⁸ Note: For the [Western Australian survey](#), adults are individuals 16 years of age and over. 2011 (n=6930 but unclear how many answered smoking questions, 95% CI 9.8- 12.4), 2012 (n=6808 but unclear how many answered smoking questions, 95% CI 8.3-11.3) 2013, (n=7,238 but unclear how many answered smoking questions, 95% CI 9.4-12.4). Responses taken over 12 months. There is no data for 2014. Conducted by Computer Assisted Telephone Interview. Reports are available from <http://www.health.wa.gov.au/publications/pop_surveys.cfm>.

¹⁴⁹ Note: For the South Australian survey, adults are 15 years of age and over. 2011 (n=unspecified, 95% CI ± 1.5), 2012 (n=unspecified, 95% CI ± 1.5), 2013 (n=unspecified, 95% CI ± 1.6), 2014 (n=unspecified, 95% CI ± 1.5). Data from [Health Omnibus survey published by the South Australian Health and Medical Research Institute](#) and is available from <<https://www.sahmri.com/our-research/themes/cancer/research/list/key-smoking-statistics>>.

¹⁵⁰ Note: For the [Tasmanian survey](#), adults are 18 years of age and over. Landline sample. 2013 (n=6,301 but unclear how many answered smoking question, 95% CI 10.7-13.2). Conducted by Computer Assisted Telephone Interviews. Reports are available from <<https://www.dhhs.tas.gov.au/publichealth/epidemiology>>.

¹⁵¹ Note: There is no [Northern Territory wide data](#) for the relevant period, see <<http://digitallibrary.health.nt.gov.au/prodjspui/handle/10137/603>>. The Aboriginal and Torres Strait Islander Health Survey (ABS Cat. No. 4727.0.55.001) estimated that in 2012-13 50.5% of Aboriginal and Torres Strait Islanders living in the Northern Territory were daily smokers, where the adult age is 15 years and over. The 2008 Aboriginal and Torres Strait Islander Social Survey (ABS Cat. No. 4714.0) estimated that in 2008 52.7% of Aboriginal and Torres Strait Islanders living in the Northern Territory were current smokers.

Table 3: NDSHS daily tobacco smokers, people aged 14 years and older, by state/territory, 1998 to 2013 (per cent)

State/territory	1998	2001	2004	2007	2010	2013
NSW	21.2	18.0	16.5	16.3	14.2	11.7#
Vic	23.4	19.2	17.5	16.5	14.9	12.2#
Qld	24.4	21.0	19.8	17.2	16.7	15.0
WA	22.6	20.0	15.6	14.8	15.6	12.4#
SA	19.3	20.1	16.5	16.5	15.0	12.8
Tas	24.4	20.6	21.6	22.6	15.9	16.1
ACT	22.5	18.4	16.2	14.7	11.0	9.7
NT	30.9	27.9	27.4	25.3	22.3	21.3
Australia	21.8	19.4	17.5	16.6	15.1	12.8#

Statistically significant change between 2010 and 2013.

5.2.2 Expenditure, market, clearance and sales data

129. A number of stakeholders referred to expenditure, market and sales data in support of their views on the impact of the tobacco plain packaging measure. It should be noted that some of the data sources are subject to limitations, which are discussed below. In particular, given the measure has only been implemented for a short period of time, long term trends cannot be analysed. The following data sources (at least those that can be analysed) all show declines in the volume of tobacco sales. This is consistent with tobacco plain packaging measure working as intended.

5.2.2.1 ATO and Customs clearance data

130. Clearance data released by the Australian Treasury (Treasury) shows that net tobacco clearances in stick equivalent terms (including excise and customs duty) fell by 3.4% in 2013 relative to 2012 and fell a further 7.9% in 2014.¹⁵² Tobacco clearances fell a total of 11.0% between calendar year 2012 and calendar year 2014. Net clearances provide an indicator of tobacco volumes in the Australian market.

131. The net clearances data provided to Treasury by the ATO and Customs is not collected for the purposes of measuring the effect of tobacco control measures and is influenced by factors other than tobacco plain packaging. The tobacco excise rate was indexed to average weekly ordinary time earnings from 1 March 2014 and there were two

¹⁵² These figures are from information release by Treasury in response to a Freedom of Information request in 2015 which contains data relating to tobacco clearances provided by the Australian Taxation Office and Customs to Treasury.

separate 12.5% increases in the tobacco excise rate (1 December 2013 and 1 September 2014) during the relevant period. It is not possible separately to identify the effect of the tobacco plain packaging measure on tobacco volumes using net clearance data. The released data includes the net quantity of cigarettes and other tobacco products (after subtracting refunds or exports) that have been cleared through the tax system, for each month during the period July 2010 to April 2015. In relation to the clearances of both cigarettes and non-cigarette tobacco products, the document states that: “The ATO totals, but not those from Customs, are also net of tobacco products destroyed with the introduction of plain packaging.” The document also states that “between December 2012 and May 2013, Customs' Tobacco Refund Scheme refunded the duty previously paid on [191,848,090 sticks, and 73,742.32 kilograms of tobacco products, as relevant]. These refunds cannot be related to monthly net clearances on a comparable basis to other Customs data presented in this document.” Clearance figures may also be subject to historical revision as more information becomes available.

5.2.2.2 Australian Bureau of Statistics household expenditure data

132. Figures released by the Australian Bureau of Statistics (ABS) on 2 December 2015 indicate that estimated household expenditure on tobacco and cigarettes in Australia is continuing to decline.¹⁵³

133. The ABS data shows that the chain volume measure (trend) for household consumption expenditure on tobacco and cigarettes in the September quarter 2012 (prior to the introduction of plain packaging) was \$4.227 billion and \$3.366 billion in the September quarter 2015 (the most recent published quarter).¹⁵⁴ This represents a reduction in household expenditure of over 20%. As noted by some stakeholders in the consultation process, there was a rise in estimated consumption expenditure in the June 2013 and September 2013 quarters compared with the previous quarters. However, in the March 2013 quarter (the first

¹⁵³ Australian Bureau of Statistics, ‘ABS responds to [“Estimate Household expenditure on tobacco”](#)’ (19 June 2014) <<http://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564/0eef1e81b5623984ca257cfb002688ca!OpenDocument>> states:

“The ABS estimates household expenditure on tobacco on a quarterly basis. To do this, the ABS uses aggregate sales data from relevant suppliers and deflates their values using a single price index for the cigarette and tobacco expenditure category.

The number of cigarettes per packet is not picked up in the aggregate sales data. The price index used to deflate the aggregate sales data accounts for changes in quantities, including the number of cigarettes per packet. This results in a chain volume measure where the price impacts have been removed to obtain the underlying consumption expenditure of Australian households.

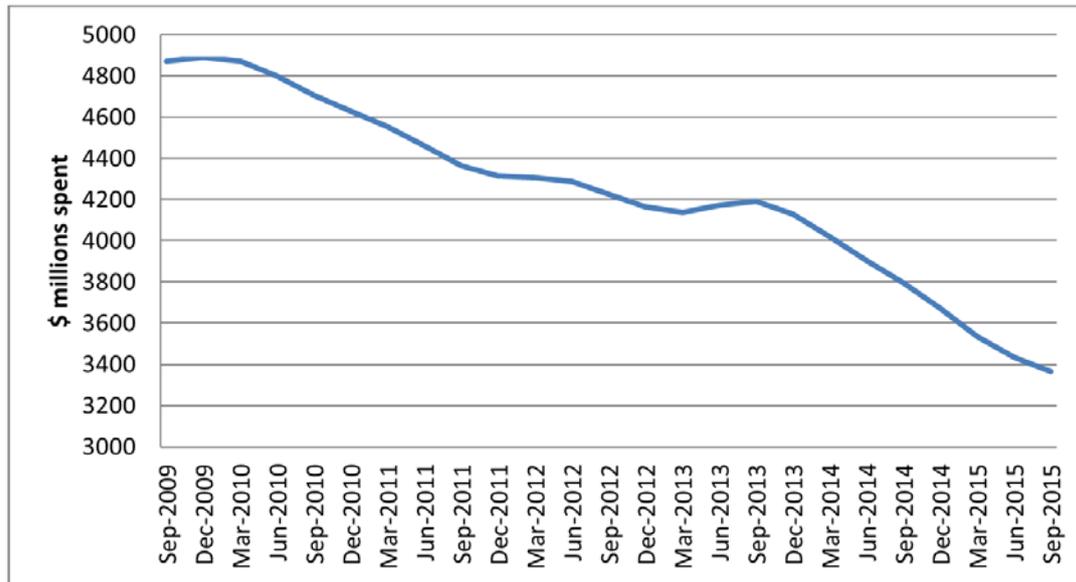
The chain volume measure (seasonally adjusted) of household consumption for cigarettes and tobacco has declined 39% from March 2001 to March 2014.

The ABS does not measure or estimate the number of cigarettes consumed”.

¹⁵⁴ Australian Bureau of Statistics, [‘5206.0 - Australian National Accounts: National Income, Expenditure and Product, Sep 2015’](#), Table 8 - Household Final Consumption Expenditure (HFCE) <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5206.0Sep%202015?OpenDocument>. Most figures in the relevant ABS publication are subject to revision as more complete and accurate information becomes available.

quarter after the full implementation of tobacco plain packaging in December 2012) and in all other quarters since implementation (except June and September 2013 quarters), estimated consumption expenditure on tobacco and cigarettes has been declining.¹⁵⁵

Figure 4: ABS estimated household expenditure on tobacco and cigarettes in Australia 2009-2015 (chain volume measure).¹⁵⁶



134. A number of stakeholders cited a peer reviewed article by Professor Davidson and Associate Professor Da Silva in support of their view that tobacco plain packaging has not been successful.¹⁵⁷ This article analysed the ABS household expenditure consumption data (up to 2013). The article states that “household expenditure of tobacco has, *ceteris paribus*, increased” since the introduction of tobacco plain packaging.¹⁵⁸ The article concludes “that any evidence to suggest that the plain packaging policy has reduced household expenditure on tobacco is simply lacking”.¹⁵⁹ The authors refer to “two very important caveats” to their results, that actual legal volumes of sales are not available in the public domain and have not been relied upon for their analysis and that the ABS household tobacco expenditure data is an imperfect proxy for tobacco consumption and is regularly revised.¹⁶⁰ Their ultimate conclusion is that “establishing the efficacy of the plain packaging policy will take painstaking econometric analysis over a long period of time”.¹⁶¹

5.2.2.3 Euromonitor report

135. A 2014 Euromonitor Report on Tobacco in Australia was also cited by a tobacco industry stakeholder to support their view that tobacco market data showed a continued

¹⁵⁵ Ibid.

¹⁵⁶ Ibid.

¹⁵⁷ S. Davidson and A. Da Silva, ‘The Plain Truth about Plain Packaging: An Econometric Analysis of the Australian 2011 Tobacco Plain Packaging Act’ (2014) 21(1) *Agenda* pp. 1-5.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ Ibid

decline of the Australian tobacco market of around 3-4% every year from 2011 until 2014 (with a lower rate of decline in 2013 compared to 2012, that is after the implementation of tobacco plain packaging).¹⁶² While Euromonitor provides limited information about the sources of its data and methodological processes, the report shows a continued decline in the tobacco market (sales of tobacco) as noted by the stakeholders and also notes, more specifically, a larger decline in cigarettes and cigars sales by volume between 2012 and 2013, the years after the implementation of the measure, compared with the decline between 2011 and 2012.¹⁶³

5.2.2.4 *InfoView data*

136. InfoView data, which is an industry market dataset, was cited by industry stakeholders as showing that volumes of tobacco sales increased by the equivalent of 0.3% (59 million sticks) in the first 12 months following the implementation of plain packaging. The underlying InfoView data was not provided and is not publicly available. As such the Department is unable to verify the claims made in relation to this dataset.

137. Some industry stakeholders also cited two newspaper articles¹⁶⁴ that analysed this InfoView data. These articles were cited to support the stakeholders' views that consumers had changed their buying habits because of the introduction of plain packaging as well as increases in tax excise. The stakeholders did not indicate whether the InfoView data showed any other increases in tobacco sales in the time periods following the implementation of the measure. The analysis of the InfoView data in the newspaper articles has been criticised by the Cancer Council of Victoria.¹⁶⁵ Cancer Council Victoria state that the data is based on tobacco companies' sales to wholesalers/retailers not on retail sales to consumers; that the figures for both 2012 and 2013 are affected by disruptions to inventory production, distribution and stock levels during the implementation of the measure; that the data does not take into account the increasing Australian population; and that the figures are inconsistent with data from other sources such as tobacco company annual reports and reports to shareholders.

5.2.2.5 *Aztec sales data*

138. One tobacco stakeholder provided two reports, prepared by Compass Lexecon, which the company had commissioned.¹⁶⁶ The reports analyse Aztec and Nielsen sales data and contain findings in relation to consumption, price and downtrading. The most recent of the

¹⁶² Appendix B, Siggins Miller, Stakeholder Consultation Report (September 2015), p. 33.

¹⁶³ Euromonitor International, *Tobacco Packaging in Australia* (2014), p. 19.

¹⁶⁴ Appendix B, Siggins Miller, Stakeholder Consultation Report (September 2015), pp. 11-12. The referenced articles are: C. Kerr 'Labor's Plain Packaging Fails as Cigarette Sales Rise', *The Australian*, 6 June 2014; C. Kerr and A. Creighton, 'Plain Wrong? Here Are the Facts: Cheap Smokers are on the Rise Since Plain Packaging', *The Australian*, 18 June 2014.

¹⁶⁵ Cancer Council Victoria, '[Facts Sheet No. 2: What has Happened to Sales of Tobacco Products since the Implementation of Plain Packaging in Australia?](#)' (2015)

<https://www.cancervic.org.au/downloads/plainfacts/Facts_sheets/Facts_Sheet_no._2._Sales_240815.pdf>.

¹⁶⁶ Neil Dryden, Compass Lexecon, *The Impact of Tobacco Plain Packaging in Australia*, 22 December 2014; Neil Dryden, Compass Lexecon, *The Impact of Tobacco Plain Packaging in Australia: An Update Report for the Post-Implementation Review*, 2 December 2015.

reports concludes that, based on their econometric analysis of these sales data since the implementation of the tobacco plain packaging measure, there has been an increase in the consumption of cigarettes, a decrease in the price of cigarettes and an acceleration of downtrading. The data relied upon in the analysis was not provided, and is not publicly available.

5.3 Conclusion on the Impact of Tobacco Plain Packaging on Public Health

139. The body of experimental, behavioural and other studies into the effects of the tobacco plain packaging measure shows that it is having a positive impact on the three specific mechanisms of reducing the appeal of tobacco products, increasing the effectiveness of health warnings, and reducing the ability of the pack to mislead. This is consistent with previous studies discussed above, which suggested the measure would have an impact on the three specific mechanisms and informed its introduction. There is also early evidence of positive changes to actual smoking and quitting behaviours, which is also consistent with the evidence demonstrating a link between the specific mechanisms and changes in smoking and quitting behaviours.

140. Data on consumption, prevalence, industry sales and the tobacco market are all important to assessing the effectiveness of the tobacco plain packaging measure. The data reviewed in the above sections suggest that prevalence rates and the consumption of tobacco products in Australia are declining. Similarly, the clearance data and ABS NHS and household expenditure data also report continued declines over recent years. Indeed, beyond the long-term declining trend, the most recent drops in estimates of prevalence in Australia seen in the NDSHS data were the most substantial in the last 20 years. Dr Chipty's report finds that the 2012 packaging changes resulted in a statistically significant decline in smoking prevalence in Australia, showing that the measure has begun to achieve its public health objectives.

6 Impact on Industry, Government and Wider Community

141. This section looks at the broader impact of tobacco plain packaging on industry, government and the wider community. This includes assessing the regulatory burden of the measure and looking at its potential costs and benefits.

142. The Department engaged Siggins Miller to produce a regulatory burden measurement (RBM) and to estimate the costs and benefits associated with the tobacco plain packaging measure. These were used to inform this PIR and to measure, where possible, the impact of the measure. This section:

- Outlines the limitations on, and methodologies used by, the consultants;
- Discusses the impact of the measure on industry;
- Discusses the impact of the measure on government; and
- Discusses the impact of the measure on the wider community including in relation to health benefits arising from the measure.

143. To the extent that any specific impact merely redistributed resources within society, and was therefore cost neutral from a societal basis, it was not discussed.

144. The discussion of the impacts of the measure must also be considered in the context of the tobacco industry in Australia, particularly as it was prior to the introduction of tobacco plain packaging. The Australian tobacco industry is highly profitable, with three firms dominating the market – British American Tobacco Australia, which accounted for 47% of cigarette retail volume in 2011; Philip Morris (Australia), which accounted for 36% of retail volume in 2011; and Imperial Tobacco Australia, which accounted for 16% of cigarette retail volume in 2011.¹⁶⁷ As an example of the size and profitability of the market, Euromonitor suggests that British American Tobacco Australia (the largest of the three tobacco companies operating in Australia) had a net profit of \$369.8 million in 2012 from sales of \$1.7 billion.¹⁶⁸

6.1 Impact on Industry

145. In line with Australian government requirements, the RBM estimated the potential direct costs to industry of transitioning to compliance with the tobacco plain packaging measure. It included consideration of plant and machinery costs, packaging compliance activities, repackaging costs (including product recall costs), education activities and other costs to retailers.

6.1.1 Limitations on the Regulatory Burden Measurement

146. There were significant limitations on the ability of Siggins Miller to complete a RBM that accurately estimated the true impact of the tobacco plain packaging measure on industry, due to factors including the limited information and data supplied by stakeholders during the consultation process.

147. For the purposes of the PIR it was not possible to determine precisely which costs submitted were actually attributable to compliance with tobacco plain packaging, and which costs were likely to have been incurred by the manufacturers as part of business as usual including due to other compliance activities. Given these limitations, in applying the RBM framework, estimates were simply derived using industry submitted costs, with adjustments made where relevant and consistent with the RBM methodology.

148. In consultations conducted for the PIR, one importer/wholesaler/distributor indicated that there were no incremental costs associated with tobacco plain packaging over and above complying with health warning requirements. This comment is consistent with the impact assessment of standardised tobacco packaging conducted in the United Kingdom, where the authors noted that the incremental cost of standardised packaging over and above the cost of meeting the European Tobacco Products Directive could be close to zero.¹⁶⁹

149. Notwithstanding the limitations on the costs information submitted, it was used to derive the estimates in the RBM in the absence of better information. The estimates arrived at

¹⁶⁷ Euromonitor International, *Passport: Tobacco in Australia* (August 2012), pp. 24, 27, 30.

¹⁶⁸ Euromonitor International, *Passport: Tobacco in Australia* (August 2014), p. 24.

¹⁶⁹ United Kingdom Department of Health, [Standardised Packaging of Tobacco Products \(Impact Assessment No. 3080, 10 February 2015\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/403493/Impact_assessment.pdf), para 140 <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/403493/Impact_assessment.pdf>.

have been adopted solely for the specific purposes of this PIR and the requirements under the government's RBM framework.

6.1.1.1 Data and Methodology Underlying the Regulatory Burden Measurement

150. Only one of the major manufacturers provided an estimate of its costs associated with the transition to tobacco plain packaging (the submission was marked commercial-in-confidence). The submission was at a very high level of generality and difficult to disaggregate, with little information given regarding the underlying activities said to give rise to the costs claimed. The short explanatory text accompanying the costs submission indicated that some of the costs incurred resulted from activities voluntarily engaged in that went outside the scope of the minimum compliance requirements of the measure and that were not incurred by other industry members. The costs submission also listed single costs which were not able to be disaggregated or excluded. This submission was incorporated largely at face value within the RBM estimate, subject to some adjustment in line with the government's RBM framework.

151. For the other manufacturers, who did not provide any information regarding costs, the sole submission by the major manufacturer was extrapolated to account for any potential costs incurred by the other companies. In the absence of cost information that would enable an accurate assessment to be made, an arbitrary proportion of the submitted costs (with minor adjustment) were applied to the other manufacturers to account for their potential costs in the RBM.

152. To estimate any costs to retailers, the RBM relied on responses to an online survey. It should be noted that the online survey was not designed to ensure a statistically representative sample of retailers and thus it provides only a crude basis for estimation of the cost of education to retailers associated with the measure.

6.1.2 Regulatory Burden Measurement¹⁷⁰

153. The RBM estimated the total regulatory burden of the TPP Act as \$73.87 million. This figure included any costs to manufacturers, wholesalers and importers (made up of plant and machinery costs estimated as \$11.42 million and packaging compliance costs estimated as \$57.73 million); and any costs to retailers (made up of education costs estimated as \$1.95 million¹⁷¹ and other transitional costs estimated as \$2.1 million¹⁷²).

¹⁷⁰ See limitations on the figures used in this section as described in paras. 146-152 above.

¹⁷¹ Of 48 retailers that responded to an online costing survey, 30% indicated that they had undertaken educational activities associated with the measure. The RBM applied that 30% figure, and other data collected from the online survey (such as the average length of training (0.97 hours), the number of personnel involved (8 per retailer) and the hourly cost of training (\$23.93)), to the entire cohort of retailers in Australia (which it estimates is 35,000). The RBM noted that the estimate is likely to be an over-estimate of the true cost to retailers where the number of tobacco retailers is less than 35,000 or training time is less than 0.97 hours, and that there is no statistically representative data to calculate the percentage of retailers that undertook training for plain packaging.

¹⁷² This estimate is comprised of \$675,555 for a one-off, one month increase in retail transaction times, across the entire retail tobacco sector and \$1.42 million associated with retailers implementing strategies to mitigate increased time associated with stock handling (e.g. re-organising stock ordering and receiving processes) and

154. No on-going costs were reported during the consultation process. As no on-going costs were reported, and noting that ongoing quality assurance procedures would be part of normal efficient business practice, no on-going compliance costs were identified for the purposes of the regulatory burden estimation. Although all costs submitted were one-off, transitional costs relating to the first 12 months of the measure being in place, in accordance with Australian government guidelines the RBM also reported the ‘annualised’ version of the estimated costs over a ten year time frame (see Table 4).¹⁷³ Using that time frame of ten years, the estimated average annual cost of tobacco plain packaging is \$7.39 million.

Table 4: Regulatory burden estimate table¹⁷⁴

Average annual regulatory costs (from business as usual)

Change in costs (\$ million)	Business	Community organisations	Individuals	Total change in costs
Total, by sector	\$7.39	None identified	None identified	\$7.39

6.1.3 Other Potential Impacts on Industry

155. In addition to the potential compliance costs associated with the tobacco plain packaging measure (as estimated in the RBM and outlined in the preceding sections) the Analysis of Cost & Benefits also considered other potential impacts on industry. Consistent with Australian government guidance, the Analysis of Costs & Benefits was based on costs over and above business as usual costs, where possible.¹⁷⁵

156. Tobacco plain packaging is likely to give rise to an on-going saving to manufacturers as the printing of plain as opposed to branded tobacco packaging could be undertaken at a lower cost.¹⁷⁶ As noted in the United Kingdom’s 2014 impact assessment of plain packaging,

transaction times and error (e.g. the use of shelf labels). Note that evidence suggests that plain packaging should have a minimal or positive effect on transaction times (that is decreasing transaction times) after a transitional period, see O.B. Carter, B.W. Mills, T. Phan and J.R. Bremner, ‘Measuring the Effect of Cigarette Plain Packaging on Transaction Times and Selection Errors in a Simulation Experiment’ (2012) 21(6) *Tobacco Control* pp. 572-577; O.B. Carter, M. Welch, B.W. Mills, T. Phan and P. Chang, ‘Tobacco Plain Packaging Improves Retail Transaction Times’ (2013) 346 *British Medical Journal*; M. Bayly, M. Scollo and M. Wakefield, ‘No Lasting Effects of Plain Packaging on Cigarette Pack Retrieval Time in Small Australian Retail Outlets’ (2015) 24(e1) *Tobacco Control* pp. e108-109; M. Wakefield, M. Bayly and M. Scollo, ‘Product Retrieval Time in Small Tobacco Retail Outlets Before and After the Australian Plain Packaging Policy: Real-world Study’ (2014) 23(1) *Tobacco Control* pp. 70-76.

¹⁷³ Office of Best Practice Regulation, [Regulatory Burden Measurement Framework](http://www.dpmp.gov.au/sites/default/files/publications/005_Regulatory_Burden_Measurement_Framework_1.pdf) (February 2015) <http://www.dpmp.gov.au/sites/default/files/publications/005_Regulatory_Burden_Measurement_Framework_1.pdf>, p. 5.

¹⁷⁴ See limitations described in paras. 146-152 above.

¹⁷⁵ Office of Best Practice Regulation, [Cost-Benefit Analysis Guidance Note s](http://www.dpmp.gov.au/sites/default/files/publications/006_Cost-benefit_analysis.pdf) (July 2014), <http://www.dpmp.gov.au/sites/default/files/publications/006_Cost-benefit_analysis.pdf>, p. 3. For a more detailed understanding of the methods and results see the full report at Appendix C, Siggins Miller, Regulatory Burden Measurement & Analysis of Costs and Benefits (January 2016).

¹⁷⁶ The United Kingdom’s 2012 impact assessments note that “tobacco companies tend to redesign their brands periodically, the introduction of standardised packaging would avoid any such costs of brand redesign, yielding subsequent savings”, see United Kingdom Department of Health, [Standardised Packaging for Tobacco Products \(Impact Assessment No. 3080, 5 March 2012\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/170569/dh_133576.pdf), [47]

<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/170569/dh_133576.pdf>;

“[t]obacco packaging manufacturers...told us that standardised packs would be substantially cheaper to produce”¹⁷⁷ and found that “there are likely to be cost savings in the assembly of the final product”.¹⁷⁸ The specific cost impacts resulting from plain packaging cannot be calculated on the data available for this PIR. However, the Analysis of Costs & Benefits provides an illustrative example of potential savings by applying the figures from the UK impact assessment to Australian market data. Using the UK figures, the Analysis estimates potential savings from reduced packaging costs over ten years as being between \$92 and \$277 million.¹⁷⁹

6.2 Impact on Government

157. The tobacco plain packaging measure also resulted in impacts on government via one-off costs, establishment and implementation costs, and on-going compliance and enforcement costs.

158. Government resources were required to implement the measure and oversee compliance and enforcement of the TPP Act. Costs were incurred by the Department of Health to develop a framework for compliance and enforcement, communications materials and to set up a Memorandum of Understanding with the National Measurement Institute to undertake educational visits and compliance activities on behalf of the Department of Health. Customs incurred costs associated with the introduction of a legislative amendment to enable the surrender of non-plain packaged products for controlled destruction and a refund of any duty paid. The ATO provided a similar scheme for the surrender of non-plain packaged products and a refund of any excise paid. A number of agencies also incurred costs for staff training associated with the measure.¹⁸⁰ On-going compliance and enforcement costs were also identified via the consultation process.

159. The Analysis of Costs & Benefits sought to estimate the costs to the government associated with the measure over ten years, discounting future years at 7% per annum.¹⁸¹ The

United Kingdom Department of Health, [Standardised Packaging of Tobacco Products \(Impact Assessment No. 3080, 17 June 2014\)](#), [94]

<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/323518/impact_assessment.pdf>. The 2014 assessment cites a 2008 Europe Economics report that similarly argued that plain packaging would mean that “costs for cigarette manufacturers would ultimately tend to fall, as they would no longer be spending the same money on branding.”, see Europe Economics, [Economic Analysis of a Display Ban and/or a Plain Packs Requirement in the UK](#) (2 September 2008) <http://www.europe-economics.com/publications/lilico_display_ban_req_uk.pdf>, [5.22].

¹⁷⁷ United Kingdom Department of Health, [Standardised Packaging of Tobacco Products \(Impact Assessment No. 3080, 17 June 2014\)](#), [95]

<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/323518/impact_assessment.pdf>.

¹⁷⁸ Ibid, [100]. See also, Rand Europe, ‘[Assessing the Impacts of Revising the Tobacco Products Directive: Study to Support a DG SANCO Impact Assessment \(Technical Report, 2011\)](#),

<http://www.rand.org/content/dam/rand/pubs/technical_reports/2011/RAND_TR823.pdf>, p. 148, which argued that plain packaging’s administrative burden is “probably negative” due to production costs being lowered.

¹⁷⁹ Appendix C, Siggins Miller, Regulatory Burden Measurement & Analysis of Cost and Benefits (January 2016), pp. 34-35.

¹⁸⁰ Appendix C, Siggins Miller, Regulatory Burden Measurement & Analysis of Cost and Benefits (January 2016), pp. 39-40 provides a more detailed understanding of government costs.

¹⁸¹ Discounting future years at 7% per annum is consistent with Australian government guidance, see Australian Government Office of Best Practice Regulation, [Cost-Benefit Analysis Guidance Note](#) (July 2014)

Analysis noted that as some data was subject to confidentiality and not-for-publication restrictions, and the cost estimates for years 4-10 were based on predicted future costs, there was some uncertainty in the estimated figures.¹⁸²

160. The estimate of the total cost to government is \$12.69 million over ten years. This does not include consideration of the impact of reduced consumption of tobacco products on the government's tax revenue, or any other broader impacts.

6.3 Other Potential Impacts

161. Other potential impacts of the tobacco plain packaging measure were also identified and discussed in the Analysis of Costs & Benefits.

162. For example, the Analysis of Costs & Benefits considers the potential impact of the tobacco plain packaging measure on changes in the illicit tobacco market in Australia. Stakeholders from the tobacco industry reported that they believed that illicit tobacco use had increased in Australia following the implementation of the tobacco plain packaging measure and due to successive ad hoc excise increases. These stakeholders relied on a series of reports commissioned by the three major tobacco companies in Australia, which estimated the size of the Australian illicit tobacco market from 2011 through to 2014. However, the Analysis of Costs & Benefits notes that these reports could not be relied upon due to the express wishes and disclaimers issued by the reports' authors. It also notes criticisms of these reports for flaws in their sampling and methodologies, as well as for inconsistencies in methodologies, sampling timeframes and protocols over the report series.

163. The Analysis also refers to a number of peer-reviewed studies that have assessed the potential changes in the Australian illicit tobacco market since the implementation of the tobacco plain packaging measure.¹⁸³ These studies found no change in smokers' reported use of unbranded illicit tobacco, no evidence of increases in use of contraband cigarettes, low levels of use of cigarettes likely to be contraband, and no increase in purchases of tobacco from informal sellers.¹⁸⁴ The Analysis of Costs & Benefits considered that it was most likely

<<http://www.dpmc.gov.au/office-best-practice-regulation/publication/cost-benefit-analysis-guidance-note>>, p. 7.

¹⁸² Appendix C, Siggins Miller, Regulatory Burden Measurement & Analysis of Cost and Benefits (January 2016), p. 40 provides a more detailed understanding of government costs and this calculation.

¹⁸³ Appendix C, Siggins Miller, Regulatory Burden Measurement & Analysis of Cost and Benefits (January 2016), pp. 35-39. See, e.g., M. Scollo, M. Zacher, K. Coomber and M. Wakefield, 'Use of Illicit Tobacco Following Introduction of Standardised Packaging of Tobacco Products in Australia: Results from a National Cross-sectional Survey' (2015) 24 *Tobacco Control* pp. ii76-ii81; M. Scollo, M. Zacher, K. Coomber, M. Bayly, and M. Wakefield, 'Changes in Use of Types of Tobacco Products by Pack Sizes and Price Segments, Prices Paid and Consumption following the Introduction of Plain Packaging in Australia' (2015) 24 *Tobacco Control* pp. ii66-ii75; M. Scollo, M. Zacher, S. Durkin and M. Wakefield, '[Early Evidence about the Predicted Unintended Consequences of Standardised Packaging of Tobacco Products in Australia: A Cross-sectional Study of the Place of Purchase, Regular Brands and Use of Illicit Tobacco](#)' (2014) 4(8) *BMJ Open* <<http://bmjopen.bmj.com/content/4/8/e005873.full>> (accessed 25 May 2015).

¹⁸⁴ The peer-reviewed studies are also consistent with the AIHW NDSHS data that indicates that the reported use of illicit tobacco in Australia declined from 6.1% in 2007 to 3.6% in 2013. M. Scollo, M. Zacher, K. Coomber and M. Wakefield, 'Use of Illicit Tobacco Following Introduction of Standardised Packaging of Tobacco Products in Australia: Results from a National Cross-sectional Survey' (2015) 24 *Tobacco Control* pp. ii76-ii81; M. Scollo, M. Zacher, S. Durkin and M. Wakefield, '[Early Evidence about the Predicted Unintended Consequences of Standardised Packaging of Tobacco Products in Australia: A Cross-sectional](#)

that the impact of the tobacco plain packaging measure on changes in the illicit tobacco market in Australia has not been substantive, if there has been any impact at all.

164. As another example, the Analysis of Costs & Benefits also considers potential gains to productivity. There is sufficient evidence both in Australia and internationally to conclude that smokers take more sick leave than non-smokers. There are also academic reports that estimate the level of excess absenteeism attributable to smoking. Using these sources, and others, the Analysis of Costs & Benefits estimated productivity gains that would be realised where the tobacco plain packaging measure prevents initiation of smoking or increases the number of smokers who quit. The estimated value per working smoker avoided is \$337.48 per year and the value of increased productivity per working quitter is estimated at \$84.37 per year.

165. Other potential impacts examined in the Analysis of Costs & Benefits include potential impacts on consumer surplus, cleaner streets, changes in brand preferences and the value of tobacco brands. These are not fully canvassed in this PIR but the discussion of each is available in Appendix B.

6.4 Valuation of Health Benefits

166. There are significant health benefits associated with people not starting or quitting smoking.¹⁸⁵ Reducing exposure to tobacco smoke by changing smokers' behaviour around non-smokers also results in further health benefits.¹⁸⁶ The Analysis of Costs & Benefits provided an illustrative example of the potential value (in terms of increasing the number and quality of years lived) of a one half percent reduction in the number of smokers (aged 12 years and above) as at the time of the introduction of the tobacco plain packaging measure. A one half percent decline in the number of smokers as of 2012 is equivalent to a 0.07 percentage point drop in prevalence and would equate to approximately 15,057 persons. Such a fall in the number of smokers would translate to an additional 30,318 life years with a discounted monetary value of an estimated \$273 million if evenly distributed over the ten year time horizon suggested by Australian government guidance.¹⁸⁷ This illustrative example

[Study of the Place of Purchase, Regular Brands and Use of Illicit Tobacco](http://bmjopen.bmj.com/content/4/8/e005873.full)' (2014) 4(8) *BMJ Open* <<http://bmjopen.bmj.com/content/4/8/e005873.full>> (accessed 25 May 2015). p. 3.

¹⁸⁵ See World Health Organization, *Reversal of Risk After Quitting Smoking* (IARC Handbooks of Cancer Prevention, Volume 11, 2007); P. Jha, C. Ramasundarahettige, V. Landsman, B. Rostron, M. Thun and R. Anderson, '21st Century Hazards of Smoking and Benefits of Cessation in the United States' (2013) 367(4) *The New England Journal of Medicine* pp. 341-350; E. Banks, G. Joshy, M. Weber, B. Lui, R. Grenfell, S. Eggar, E. Paige, A. Lopez, F. Sitas and V. Beral, 'Tobacco Smoking and All-cause Mortality in a Large Australian Cohort Study: Findings from a Mature Epidemic with Current Low Smoking Prevalence' (2015) 13 *BMC Medicine* pp. 38-48; R. Doll, R. Peto, J. Boreham and I. Sutherland, 'Mortality in Relation to Smoking: 50 Years' Observations on Male British Doctors' (2004) 328 *British Medical Journal* pp. 1519-1528.

¹⁸⁶ M. Zacher, M. Bayly, E. Brennan, J. Dono, C. Miller, S. Durkin, M. Scollo and M. Wakefield, 'Personal Tobacco Pack Display Before and After the Introduction of Plain Packaging with Larger Pictorial Health Warnings in Australia: An Observational Study of Outdoor Café Strips' (2014) 109 *Addiction* pp. 653-662.

¹⁸⁷ See, e.g., Office of Best Practice Regulation, [Regulatory Burden Measurement Framework](#) (February 2015)

<http://www.dpmpc.gov.au/sites/default/files/publications/005_Regulatory_Burden_Measurement_Framework_1.pdf>, p. 5.

shows how small decreases in smoking rates can have sizeable monetised impacts due to the additional life years that can be gained by ex-smokers.

167. In addition to the health benefits from smokers quitting, the Analysis of Costs & Benefits also provided an illustrative calculation of a one half per cent reduction in those who are estimated to take up smoking in the next year as equal to 70 persons, which translates to an additional 160 life years saved. Greater reductions in uptake of smoking in future years would result in additional life years saved.

168. The health benefits from reduced exposure to tobacco smoke among non-smokers are not included in the above examples and would thus provide additional health benefits over and above those discussed.

6.5 Conclusion on the Impact of Tobacco Plain Packaging on Industry, Government and the Wider Community

169. The potential costs and benefits of tobacco plain packaging were analysed in relation to industry, government and the wider community. Due to the timing of the PIR and the data and analysis available to inform the review, not every cost and benefit was able to be quantified or monetised. Some general conclusions are still possible, however, in relation to the impact of the measure.

170. In relation to the impact on industry, the RBM estimated a regulatory burden on industry using industry data received through consultations and other public data sources. Notwithstanding the limitations on the RBM process (as set out above) the average annual regulatory burden across the entire industry (including manufacturers, importers, wholesalers and retailers) over ten years, estimated in accordance with the government's RBM framework, is \$7.39 million. This reflects one-off, transitional costs incurred to comply with tobacco plain packaging. No on-going costs to industry were identified.

171. Apart from potential impacts on tobacco sales or profits, which were unable to be analysed (as no data was provided by industry), other potential impacts on industry were also identified, with potential cost impacts for production being the most prominent example.

172. The PIR has also estimated the costs to government as a result of the measure. These largely reflect the costs of the lead agencies involved in the implementation of the measure, and on-going compliance and enforcement costs. The Analysis of Cost & Benefits has estimated such costs to government as being \$12.69 million over 10 years.

173. Studies have also documented the burden of smoking related disease, and the benefits to smokers and the community of reduced smoking and exposure to tobacco smoke. According to the NDSHS, between 1998 and 2013 smoking prevalence in Australia fell by 9 percentage points as a result of Australia's wide-ranging and comprehensive suite of tobacco control measures implemented and updated over the past 50 years. The most recent fall in prevalence (between 2010 and 2013) was also the most substantial of those detected by the NDSHS in the last 20 years. As an illustration of the monetised value of drops in smoking, a reduction in prevalence as at 2012 of 0.07 percentage points would result in 15,057 fewer smokers with a potential estimated monetary value of \$273 million over ten years. This illustrative figure does not account for benefits associated with any reduction in the uptake of

smoking in the future (that is, by those currently aged less than 12 years old) or any reduction in exposure to tobacco smoke arising from the measure.

174. The evidence and analysis examined in this section shows that incremental compliance costs to industry, estimated solely for the purpose of this PIR, were relatively small and one-off in nature. It also identifies the potential for cost savings to industry arising from standardised packaging and that even small health benefits once achieved will result in a large monetised value. The long-term benefits of the measure are likely to exceed any one-off and transitional costs incurred.

Conclusion

175. Tobacco plain packaging was implemented as part of Australia's on-going, comprehensive suite of tobacco control measures that are intended to work together to reduce tobacco related harm. The overarching objective of the measure was to improve public health by discouraging people from using tobacco products, encouraging people to give up using tobacco products, discouraging relapse of tobacco use and reducing exposure to tobacco smoke. This was to be achieved via three specific mechanisms of reducing the appeal of tobacco products, increasing the effectiveness of health warnings, and reducing the ability of packaging to mislead consumers regarding the harmful effects of tobacco use. The measure also gave effect to certain obligations of Australia under the FCTC.

176. As summarised in Part I of this PIR, tobacco is a serious public health issue in Australia and Australia's tobacco control measures need regular monitoring and updating to maintain an on-going downward trend in tobacco use. The tobacco plain packaging measure was part of the government's strategy to address the long-term health impacts of tobacco use via a comprehensive suite of measures. The enactment of the measure was informed by the best evidence available at that time (as discussed at Section 2) and after extensive consultation with a range of stakeholders, including industry.

177. After implementation, as summarised in Part II of this PIR, further consultation was undertaken with stakeholders to ascertain their perspective on the impact of the tobacco plain packaging measure. This revealed that views were polarised. While public health and related bodies are generally supportive of the measure and reported that it is beginning to meet its objectives, industry stakeholders generally took the opposite position suggesting it has had no positive impact and may be associated with increased illicit tobacco use.

178. As noted earlier, the RBM figure was based largely on industry submissions, despite limitations in the data provided, given the absence of better information.¹⁸⁸ Applying the government's RBM framework, the regulatory burden was estimated as \$73.87 million across the entire industry (including manufacturers, importers, wholesalers and retailers). No on-going costs were submitted as part of the consultation process. The RBM estimate derived is relatively small compared to the size of the industry (including manufacturers, importers, wholesalers and retailers). While it was not possible to complete a full Cost Benefit Analysis for this PIR (due to the limitations on the data available at this time and provided by industry), potential monetised benefits were also analysed including an illustrative example of health benefits. That example estimated that a 0.07 percentage point drop in smoking prevalence would be equivalent to \$273 million in monetised health benefits.

179. Following an extensive review of submissions received, the available data, and peer-reviewed academic analysis of the measure (both pre- and post- implementation), the early evidence is that the measure is having a positive impact. The available studies are diverse, analysing a range of datasets (including the National and NSW Tracking Surveys, ASSAD

¹⁸⁸ See paras. 146-149 above.

data, and ITC Project data) and demographics (including adolescents, adults, and cigarette and cigar/cigarillo smokers).

180. The major relevant datasets all show drops in national prevalence rates since 2012. For example, data from Roy Morgan Research, the ABS and AIHW relating to tobacco prevalence, as well as data relating to tobacco excise and duty clearances, and household expenditure, all show continuing declines in recent years. Dr Chipty's modelling also estimated a 0.55 percentage point drop in smoking prevalence in Australia, over 34 months following implementation, attributable to the 2012 packaging changes. This strong result, that is "likely understated",¹⁸⁹ is expected to grow into the future as the full effects of the 2012 packaging changes are realised over the longer term.

181. In light of all of the above, it is the conclusion of this PIR that the measure has begun to achieve its public health objectives of reducing smoking and exposure to tobacco smoke in Australia and it is expected to continue to do so into the future.

¹⁸⁹ Appendix A, T. Chipty, *Study of the Impact of the Tobacco Plain Packaging Measure on Smoking Prevalence in Australia* (January 2016), para. 36.