

## CASE STUDY

### **Coles Supermarkets and Daffodil Day – Denormalising the Retail Arm of Big Tobacco**

This case study provides a guide to the estimation of the human cost of retail tobacco sales.

While tobacco manufacturers are considered corporate pariahs, big tobacco retailers seem to operate behind a smokescreen of respectability. This smokescreen is so effective that the Cancer Council can [partner with Coles Supermarkets](#) which will sell over a million cigarettes on [Daffodil Day](#) - a cancer charity fundraising event that has special meaning and brings hope to cancer sufferers and their families.

Understanding the human cost of tobacco sales by individual retailers can help government, charities, the community, and even tobacco retailers to recognise the impact of these sales. Hopefully, greater awareness of the role of tobacco retailers in causing tobacco related disease will help modify the position of the Cancer Council on retail tobacco industry sponsorship and undermine retailers credibility when they oppose tobacco control legislation such as plain packaging of tobacco. The calculations were [published in an opinion piece](#) in the Sydney Morning Herald on Daffodil Day 2004.

The methods outlined below can be used to estimate the deaths and costs of treatment for tobacco related disease caused by individual retailers and the value they place on the life of their customers.

#### **The Observations**

I observed sales of cigarettes at Coles Supermarkets in July and August 2004 after learning of their relationship with Daffodil Day. I visited Coles Supermarkets in Newcastle and observed sales at the cigarette counter. The cigarette counters are at the front of the shop, people can walk up to it directly and be served without entering the store. There is usually one or two cash register aisles adjacent to the cigarette counter from which tobacco can be purchased.

I only counted sales where I saw the cigarette packs passed to the purchaser. I assumed all cigarette packs were 20 packs for the purpose of calculation. This leads to underestimation as in 2004 most cigarette packs sold in Australia contain more than 20 cigarettes. Most of the observations were conducted at a supermarket in an area of relatively low smoking prevalence. Because of the small sample used in these calculations an alternative method using published data was used to compare the observation based extrapolations – see below.

Table 1 below shows the time of the observation periods, the number of cigarettes sold during the observation period and the duration of each observation period, thereby allowing a calculation of an average hourly sale rate of 902 cigarettes per

hour. The hourly rates varied markedly, but the observations were conducted on different days over several weeks, so many factors may explain this variability.

**Table 1. Observation periods and number of cigarettes sold**

Observation periods	Number of cigarettes sold	Duration of observation (min.s)
7.52 - 8.22 am	60	30
9.50 - 10.20 am	1080	30
12.32 - 1.02 pm	960	30
1.37 -2.37 pm	700	60
3.41 - 4.11 pm	260	30
6 - 6.30 pm	480	30
8.10- 8.40 pm	320	30
9.11 - 9.41 pm	200	30
<b>Total</b>	<b>4060</b>	<b>270 = 4.5 hr.s</b>

### The Calculations

Measure	Calculation	Result
Average hourly sales	4060 cigarettes/4.5 hours	902 cigarettes per hour
Total estimated sale of cigarettes by Coles per year	902 x 15 hrs sales per day x 360 days per year x 480 stores	2337,984,000 cigarettes (2.3 billion)
Years of life prematurely lost by Australians per year from 2.3 billion cigarettes	2.3 billion x 5.5 minutes per cigarette	24,068 years
Number of premature deaths per year expected from 2.3 billion cigarettes	24,000 years /average number of years life lost due to smoking (15 years)	1,605 deaths
Direct medical costs of treating illness from 2.3 billion cigarettes	2.3 billion x 17.25 cents cigarette	\$396,750,000
Supermarket profit per customer death	3.5 cents profit per cigarette multiplied by	\$35,000

from cigarette sales	one million cigarettes	
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### The Assumptions and References Underlying the Calculations

Assumption	Estimate	Source and comments
Minutes of life lost per cigarette smoked	5.5 minutes	Royal College of Physicians Report on Smoking and Health, 1997 UK.( Alternative estimates include the estimate of 7 minutes from the WHO Tobacco Atlas at <a href="http://www.who.int/entity/tobacco/en/atlas9.pdf">www.who.int/entity/tobacco/en/atlas9.pdf</a> , and the estimate of 11 minutes from the article by Shaw in the BMJ at <a href="http://bmj.bmjournals.com/cgi/content/full/320/7226/53">http://bmj.bmjournals.com/cgi/content/full/320/7226/53</a> Therefore 5.5 minutes is a conservative estimate and gives a lower estimate of impact of cigarette sales.
Average number of years of life lost due to smoking	15 years	From USA Surgeon Generals Report, 2004. <a href="http://www.cdc.gov/tobacco/sgr/sgr_2004/pdf/chapter7.pdf">http://www.cdc.gov/tobacco/sgr/sgr_2004/pdf/chapter7.pdf</a> Alternative estimates include 5 or 10 years, however, since this figure is used to calculate deaths by dividing the number years of potential life lost, the use of 15 years provides a lower estimate of deaths than using 5 or 10 years and hence this is a conservative estimate.
Direct medical costs of treating illness	\$3.45 per pack of 20 cigarettes or 17.25 cents per cigarette	MMWR - Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Economic Costs - United States, 1995-1999. April 12, 2002 / Vol. 51 / No. 14 <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5114a2.htm">http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5114a2.htm</a> This cost estimate was originally in \$US, however, despite the difference in the Australian dollar value, the estimate was not increased as it is generally accepted that Australian health care costs are lower than USA costs.
Supermarket profit per customer death from cigarette sales Or Value of a customer life to a supermarket	\$35,000	There is approximately one death for every million cigarettes smoked from: <a href="http://tobaccocontrol.bmj.com/content/21/2/87.full?sid=5e6a3e85-63f8-4f97-9414-38e2c0b3964f">http://tobaccocontrol.bmj.com/content/21/2/87.full?sid=5e6a3e85-63f8-4f97-9414-38e2c0b3964f</a> Average retail profit margin for large supermarkets is 7% from: <a href="http://www.tobaccoinaustralia.org.au/10-3-retail-value-and-volume-of-the-market">http://www.tobaccoinaustralia.org.au/10-3-retail-value-and-volume-of-the-market</a> Assume price of \$10 for 20 cigarettes (will vary depending on pack/carton size) then profit per cigarette = \$10 divided by 20 x 0.07 = 3.5 cents per cigarette. Multiplying 3.5 cents by one million cigarettes = \$35,000 – the value of a life to a supermarket selling cigarettes.

## Alternative estimation methods

When I first calculated the deaths associated with the number of cigarettes estimated to be sold by Coles Supermarkets they seemed unbelievably high - not least because 1605 deaths is about 10% of all the deaths currently attributed to tobacco related disease in Australia. But there is another way of calculating the impact of cigarette sales which produces a similar result.

Measures	Estimates	Sources
Number of cigarettes sold in Australia annually	25 billion	VicHealth Centre for Tobacco Control, Market information report. <a href="http://www.vctc.org.au/industry/market_information.pdf">www.vctc.org.au/industry/market_information.pdf</a>
Share of Australian tobacco market held by supermarkets	50%	VicHealth Centre for Tobacco Control, Market information report. <a href="http://www.vctc.org.au/industry/market_information.pdf">www.vctc.org.au/industry/market_information.pdf</a>
Woolworths and Coles Myer share of national grocery market	70%	"Supermarket giants Woolworths and Coles Myer already have a hefty 70% share of the national grocery market and the ACCC is closely monitoring any moves by the big two to snap up Franklins" stores. <a href="http://www.bandt.com.au/news/91/0c003091.asp">http://www.bandt.com.au/news/91/0c003091.asp</a>
Woolworths, Coles and Franklins (Big 3) share of national grocery market	80%	"Most submissions, including that of the Australian Competition and Consumer Commission (ACCC), quote the 80.4% figure. The AC Nielson figures are endorsed by industry journal, Retail World." <a href="http://www.regional.org.au/articles/agriculture/beef/bin_retail1.htm">http://www.regional.org.au/articles/agriculture/beef/bin_retail1.htm</a>

Based on the above information, if it is assumed that 50% of the tobacco market is held by supermarkets, and Coles holds 30% of the national grocery market then we can estimate that Coles holds (50% of 30%) 15% of Australian tobacco sales. 15% of 25 billion cigarettes equals 3.75 billion cigarettes which suggests that the estimate above of 2.3 billion cigarette sales by Coles per year is not likely to be an overestimate. Additionally, if we assume 15% of all Australian tobacco sales on average for Coles, we might expect 15% of the annual death toll due to tobacco to be associated with these sales. 15% of 19,000 deaths equal 2,850 deaths. Again suggesting that the estimate of 1605 deaths is not an overestimate.