COVER ESSAY

Happy Birthday Marlboro: the cigarette whose taste outlasts its customers

A Hyland, R Goldstein, A Brown, R O'Connor, K M Cummings

Tobacco Control 2006;15:75–77. doi: 10.1136/tc.2005.015198

Marlboro is 50 years old—and still killing its customers

On 5 November 2005, Philip Morris celebrated the 50th anniversary of its Marlboro brand with invitation only parties held in 49 US cities featuring popular entertainers. Fifty years ago, Philip Morris repositioned Marlboro from a feminine brand to one featuring a series of masculine models, eventually settling on the now iconic cowboy (see the cover for examples of Marlboro advertising, which can also be found at <http://ros-well.tobaccodocuments.org>).

Today, Marlboro holds over 40% of the US cigarette market share and has become one of the leading consumer products sold worldwide, generating massive profits for Philip Morris.¹ Unfortunately, there is a downside—Marlboro kills its customers.² Because Philip Morris thought it important to bring attention to the 50th anniversary of the modern Marlboro brand, we thought it was only fitting to try to estimate the number of US Marlboro customers that have died and are projected to die as a result of visiting “Flavor Country”.

NUMBER OF DEATHS

In order to calculate the fraction of deaths attributable to Marlboro cigarettes in the United States over the past 50 years (table 1), we first determined the number of smoking attributable deaths in a given year and then multiplied this by the estimated market share for Marlboro cigarettes in the 10 years before, reflecting a 10 year latent period between smoking and disease. The number of tobacco deaths was derived from published estimates for 1985, 1988, 1990–1994, and 1995–1999.³ If data were not available for a given year estimates were interpolated between data points. The cumulative US tobacco-attributable mortality data from 1964 to 1985 (5.7 million attributable deaths) were available⁴ and annual estimates were interpolated to reflect a linear increase during that period, with the conditions that the cumulative total equals 5.7 million and the 1985 data point equals the published total of 390 000. Mortality estimates for the period between 1955 to 1963 assume the same linear constant change. Marlboro's share of the cigarette market in a given year between 1955 and 2005 was based on reports compiled from industry documents and financial reports.⁵ Future US deaths from Marlboro cigarettes are based on recent estimates of smoking attributable deaths and Marlboro market share. The total number of tobacco-attributable deaths to

Marlboro smokers is the sum of the annual number of deaths. Future expected Marlboro-attributable deaths are estimated by multiplying the constant tobacco-attributable mortality in a given year between 2006 and 2015 by the Marlboro market share 10 years previous and summing across years.

MARKET SHARE

The market share for Marlboro steadily increased to over 10% by 1971, to over 20% by 1983, to over 30% by 1995, and to over 40% by 2005. Marlboro cigarettes have killed more than 2.3 million Americans since 1955 with another expected 1.6 million deaths in the next 10 years. Put another way, in 2005, Marlboro is estimated to account for 30% of all smoking-attributable deaths in the United States.

It is important to recognise that the estimates presented in this paper are subject to limitations including the length of the lag period used, the amount smoked by Marlboro smokers compared to other smokers, and brand switching to and from Marlboro products; however, there is no getting around the overall conclusion that Marlboro is by far and away the most lethal consumer product ever produced. More Americans have died or will die because of Marlboro than US soldiers who have died in all foreign wars combined.⁶ However, merely considering the number of deaths attributable to Marlboro in the United States over the past half century is surely a huge underestimate of the total death toll from Marlboro, given the brands position as the world's best selling cigarette. According to a recent Philip Morris International report, Marlboro is considered the greatest asset of the company with projected strong growth predicted for the future worldwide.⁷ With the death toll from tobacco estimated to reach 10 million annually by 2020, it is likely that Marlboro's next 50 years could prove to be its most deadly.⁸

Birthdays are a time to reflect on the good and bad that has taken place in the past and what the future might hold. Perhaps instead of sponsoring a birthday bash commemorating 50 years of the Marlboro man, Philip Morris should hold a funeral and send the Marlboro man to his grave like so many of his loyal customers.

Authors' affiliations

A Hyland, A Brown, R O'Connor, K M Cummings, Roswell Park Cancer Institute, Department of Health Behavior, Buffalo, New York, USA
R Goldstein, Probativ Productions, San Francisco, California, USA

See end of article for authors' affiliations

Correspondence to:
Dr Andrew Hyland,
Roswell Park Cancer
Institute, Department of
Health Behavior, Elm and
Carlton Streets, Buffalo,
NY 14263, USA; Andrew.
hyland@roswellpark.org

Table 1 Marlboro market share and estimated number of Marlboro smokers dying from smoking attributable diseases in the United States, 1955–2015

Year	Estimated number of Marlboro attributable deaths assuming a 10 year lag period					Estimated future Marlboro attributable deaths				
	Marlboro market share	Total smoking attributable mortality	Mortality attributed to Marlboro	Marlboro market share	Year	Total smoking attributable mortality	Mortality attributed to Marlboro	Marlboro market share	Total smoking attributable mortality	Mortality attributed to Marlboro
1955	1.7%	109066		18.3%	1981	329983	36668	40.5%	442398	143197
1956	3.7%	113810		19.2%	1982	344337	43722	40.5%	442398	151862
1957	4.8%	118761		20.1%	1983	359316	49634	40.5%	442398	157926
1958	4.7%	123927		21.5%	1984	374946	55343	40.5%	442398	165075
1959	4.5%	129318		22.4%	1985	390000	60242	40.5%	442398	161475
1960	4.6%	134943		23.0%	1986	404667	63655	40.5%	442398	165899
1961	4.9%	140813		23.6%	1987	419333	67287	40.5%	442398	165899
1962	5.1%	146938		24.7%	1988	434000	72461	40.5%	442398	170323
1963	5.0%	153330		25.7%	1989	432350	73353	40.5%	442398	174747
1964	5.0%	160000		25.9%	1990	430700	76293	40.5%	442398	179171
1965	5.3%	166960	2856	25.8%	1991	430700	78750	40.5%	442398	1635576
1966	6.0%	174223	6372	24.4%	1992	430700	82577			
1967	6.6%	181801	8668	23.5%	1993	430700	86777			
1968	7.4%	189710	9009	28.1%	1994	430700	92572			
1969	8.5%	197962	8862	30.1%	1995	442398	99089			
1970	9.8%	206574	9558	32.4%	1996	442398	101855			
1971	11.1%	215559	10599	34.3%	1997	442398	104377			
1972	12.7%	224936	11367	35.7%	1998	442398	109423			
1973	13.8%	234721	11741	37.3%	1999	442398	113559			
1974	14.8%	244931	12143	36.5%	2000	442398	114420			
1975	15.4%	255586	13455	37.5%	2001	442398	114004			
1976	15.7%	266704	16123	37.5%	2002	442398	108088			
1977	16.0%	278306	18256	38.5%	2003	442398	104052			
1978	16.7%	290412	21571	39.5%	2004	442398	124463			
1979	17.0%	303045	25746	40.5%	2005	442398	133213			
1980	17.7%	316227	30972		TOTAL		2383178			

Marlboro market share from 1955 to 1999 is obtained from various industry documents compiled by Goldstein (see Goldstein³). Marlboro market share from 2000 to 2005 is estimated from the October 2005 IRI report (see Prudential Equity Group¹).

Tobacco attributable mortality data come from published estimates for 1985, 1989, 1990–1994, and 1995–1999 (see³). Data from 2000–2005 are assumed to equal the 1995–1999 period. Years in this period without a direct estimate were interpolated between data points. Cumulative smoking-attributable mortality data from 1964 to 1985 were available (see Warner and Muf²) and annual estimates were interpolated to reflect a linear increase during that period with the conditions that the cumulative total equals the published total of 5.7 million and the 1985 data point equals the published total of 390000. Mortality estimates from 1955 to 1963 assumed the same linear constant change. Marlboro attributable deaths assume a 10 year lag period. Future Marlboro attributable deaths assume the Marlboro market share and total smoking attributable deaths remain at the 2005 levels for the next 10 years.

REFERENCES

- 1 **Prudential Equity Group, LLC.** *IRI monthly report – September tobacco data*, 27 October, 2005.
- 2 **Fellows JL**, Trosclair A, Adams EK, *et al.* Annual smoking-attributable mortality, years of potential life lost, and economic costs — United States, 1995–1999. *MMWR Morb Mortal Wkly Rep Surveillance Summary* 2002;51:300–3.
- 3 **US Department of Health and Human Services.** *The health consequences of smoking: a report of the Surgeon General*. Atlanta, Georgia: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004.
- 4 **Warner KE**, Murt HA. Premature deaths avoided by the antismoking campaign. *Am J Public Health* 1983;73:672–7.
- 5 **Goldstein R.** *Cigarette production 1949–1999*. Report produced for Roswell Park Cancer Institute, Buffalo New York, 2003. <http://roswell.tobaccodocuments.org>.
- 6 **Anon.** Statistical Summary America's Major Wars. <http://www.cwc.lsu.edu/cwc/other/stats/warcost.htm>.
- 7 Remarks by A Calantzopoulos, President and CEO, at JP Morgan conference, London June 29 2005. http://www.altria.com/media/press_release/03_02_pr_2005_06_29_02.asp.
- 8 **Ezzati M**, Lopez AD. Estimates of global mortality attributable to smoking in 2000. *Lancet* 2003;362:847–52.

ECHO

Smoking and age related macular degeneration: the number of pack years of cigarette smoking is a major determinant of risk for both geographic atrophy and choroidal neovascularisation

J C Khan, D A Thurlby, H Shahid, D G Clayton, J R W Yates, M Bradley, A T Moore, A C Bird, for the Genetic Factors in AMD Study

Please visit the Tobacco Control website [www.tobaccocontrol.com] for a link to the full text of this article.

Background/aims: There is evidence that smoking is a risk factor for age related macular degeneration (AMD). However, not all studies have demonstrated this association and several key questions about the role of smoking in AMD have still to be determined. The aim of this study was to further investigate this relation for both choroidal neovascularisation (CNV) and geographic atrophy (GA).

Methods: To investigate the relation between smoking and the risk of developing age related macular degeneration (AMD) in white people, 435 cases with end stage AMD were compared with 280 controls. All subjects had graded stereoscopic colour fundus photography and AMD was defined as the presence of GA or CNV. Smoking history was assessed using multiple parameters in a detailed questionnaire.

Results: Comparison of current and former smokers with non-smokers was consistent with smoking being a risk factor for AMD but did not reach statistical significance. There was a strong association between AMD and pack years of cigarette smoking ($p = 0.002$), the odds ratio increasing with the amount smoked; for subjects with more than 40 pack years of smoking the odds ratio was 2.75 (95% CI 1.22 to 6.20) compared with non-smokers. Both types of AMD showed a similar relation; smoking more than 40 pack years of cigarettes was associated with an odds ratio of 3.43 (95% CI 1.28 to 9.20) for GA and 2.49 (95% CI 1.06 to 5.82) for CNV. Stopping smoking was associated with reduced odds of AMD and the risk in those who had not smoked for over 20 years was comparable to non-smokers. The risk profile was similar for males and females. Passive smoking exposure was associated with an increased risk of AMD (OR 1.87; 95% CI 1.03 to 3.40) in non-smokers.

Conclusions: The authors have demonstrated a strong association between the risk of both GA and CNV and pack years of cigarette smoking. This provides support for a causal relation between smoking and AMD. They also show an increased risk for AMD in non-smokers exposed to passive smoking. Stopping smoking appears to reduce the risk of developing AMD.

▲ *British Journal of Ophthalmology* 2006;90:75–80.