Counteracting Tobacco Motor Sports Sponsorship as a Promotional Tool: Is the Tobacco Settlement Enough?

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A B S T R A C T

Objectives. This study sought to quantify television advertising exposure achieved by tobacco companies through sponsorship of motor sports events and to evaluate the likely effect of the Master Settlement Agreement on this advertising.

Methods. Data from *Sponsors Report,* which quantifies the exposure that sponsors of selected televised sporting events receive during broadcasts of those events, were compiled for all motor sports events covered by the service for the period 1997 through 1999.

Results. From 1997 through 1999, tobacco companies achieved 169 hours of television advertising exposure and $410.5 million of advertising value for their products by sponsoring motor sports events. If tobacco companies comply with the Master Settlement Agreement and maintain their advertising at 1999 levels, they will still be able to achieve more than 25 hours of television exposure and an equivalent television advertising value of $99.1 million per year.

Conclusions. Despite a federal ban on tobacco advertising on television, tobacco companies achieve the equivalent of more than $150 million in television advertising per year through their sponsorship of motor sports events. The Master Settlement Agreement likely will do little to address this problem. (*Am J Public Health.* 2001;91:1100–1106)

Corporate sponsorship of special events is well recognized in the marketing literature as an important component of product promotion.[1–3] Sports sponsorship, in particular, is an important and effective promotional tool.[2,4–8] The tobacco industry has used sports sponsorship effectively to promote its products, largely by achieving television advertising exposure for its cigarette and smokeless tobacco brands in a way that circumvents the federal prohibition of tobacco advertising on television.[9–28] The sponsorship of televised motor sports events has been the primary tool used by tobacco companies to achieve continued television exposure for their brands in the presence of the television advertising ban.[20–28]

In 1998, US cigarette companies spent $125.6 million on sports sponsorship and related promotional efforts.[29] The sponsorship of motor sports events constitutes approximately 70% of tobacco sponsorship expenditures.[30] The multistate settlement with the tobacco industry attempted to contain the promotion of tobacco through sports sponsorships by limiting each tobacco company to 1 brand-name sponsorship of a sporting event or series per year.[31] This restriction goes into effect on November 23, 2001.

In this article, I evaluate the likely effectiveness of the tobacco settlement in counteracting the effects of tobacco motor sports sponsorship by describing and analyzing the television advertising value achieved by tobacco companies through motor sports sponsorship from 1997 through 1999 and analyzing the television advertising value that tobacco companies would achieve by complying with the provisions of the Master Settlement Agreement.

In the marketing literature, the primary reason given for corporations to undertake sports sponsorships is to achieve television exposure for their companies or brands.[4] Among the established techniques for evaluating the effect of sports sponsorships is studying the extent of media coverage, including the dollar equivalent of free advertising achieved.[2,5–8] The *Sponsors Report*, based in Ann Arbor, Mich, specializes in valuing motor sports sponsorships by analyzing televised events and quantifying the amount of in-focus exposure time and number of verbal mentions for each company and brand sponsor.[32] Multiplying the in-focus exposure time by the individual broadcast's commercial advertising rate yields a dollar value for the television advertising each sponsor achieves. *Sponsors Report* clients use this information to evaluate the effect of their sponsorships.[32]

Although cigarette advertising on television has been prohibited since 1971,[33] and smokeless tobacco advertising on television has been prohibited since 1984,[34] several studies have reported that tobacco companies have circumvented these bans by sponsoring motor sports events and achieving television exposure of their brand names or logos.[20–24,28] However, the existing data have 2 major limitations. First, no recent data are available. The most recent published data on tobacco advertising through televised motor sports events are for the year 1993,[20,24] and only a newspaper article mentions data for 1 automobile race from 1996.[28] Second, previous studies have tended to report overall exposure data; data broken down by specific race series as well as specific brands have been limited.

A considerable body of research suggests that tobacco sports sponsorship may influence youth smoking attitudes and behavior.[35–43] This research has found that cigarette sports sponsorship has profound effects on brand awareness,[35,36,39–41] perceived connections between brands and sport,[35–38,40,42] associations between

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cigarette brands and excitement,[35] attitudes about smoking,[39,42,43] and smoking behavior.[41,42]

Given the widespread television advertising exposure achieved by tobacco companies through sponsorship of motor sports, and given the evidence for an effect of this sponsorship on youth smoking attitudes and behavior, addressing tobacco motor sports sponsorship should be an important public health strategy. The attorneys general who negotiated the multistate settlement with the tobacco companies addressed this issue, and the resulting Master Settlement Agreement contains provisions that limit tobacco companies to a single brand-name sponsorship of a racing series per year.[31] But few, if any, published data are available to evaluate the likely effect of this provision on exposure to television advertising for tobacco products. For example, it is not clear how much television advertising is currently achieved by tobacco companies through sponsorship of a single racing series.

In this article, I present a current, comprehensive analysis of tobacco motor sports sponsorship in the United States. I provide (1) a complete picture of brand-specific television advertising exposure achieved by cigarette and smokeless tobacco companies through sponsorship of motor sports events during the period 1997 through 1999 and (2) data on tobacco advertising achieved through motor sports sponsorship, broken down by brand and racing series, to evaluate the likely effect of the Master Settlement Agreement's limitations on tobacco company sponsorship.

Methods

Data Sources

A service of Joyce Julius and Associates (Ann Arbor, Mich), *Sponsors Report* quantifies the exposure that sponsors of selected televised sporting events receive during broadcasts of those events.[32] The service covers most nationally televised motor sports events for racing series that originate in the United States.

Sponsors Report measures the national television exposure achieved by event sponsors by calculating the clear, in-focus exposure time (the time that a sponsor's name or logo can be readily identified by an unbiased viewer) during the event broadcast for each sponsor's company or brand name or logo. The number of verbal mentions of each sponsor during the broadcast is also recorded. The dollar value of the advertising exposure realized through the appearance and verbal mention of sponsor names and logos on television is estimated by multiplying the clear, in-focus exposure time by the individual broadcast's nondiscounted or estimated cost for commercial advertising. The broadcast's advertising cost per 30 seconds is used to generate a value per second, and this figure is multiplied by the number of seconds of in-focus exposure time. Verbal mentions are valued at 10 seconds each, and this time is combined with the in-focus exposure time in deriving an advertising dollar value.

Thus, the exposure value determined by *Sponsors Report* is an approximation of the amount a sponsor would have to pay to achieve the same exposure time via a paid television advertisement during that broadcast. *Sponsors Report* also estimates race attendance and total television viewing audience. The data in *Sponsors Report* have become the industry standard for measuring the television exposure value of sports sponsorship. No other service provides this information.

We obtained from *Sponsors Report* the comprehensive motor sports packages for 1997, 1998, and 1999. The package includes all *Sponsors Report* event issues that the research staff compiled during this time. These reports include data for 11 automobile racing series during each of the 3 years. The total number of automobile racing events covered in our data was 205 for 1997, 216 for 1998, and 211 for 1999 (632 races for all 3 years combined), and the total number of television broadcasts was 599 for 1997, 547 for 1998, and 600 for 1999 (1746 broadcasts for all 3 years combined). The number of broadcasts exceeds the number of events because some networks air replays of the events.

Data Extraction

We extracted from the *Sponsors Report* data the event audience and television viewing audience for each race in each of the racing series. We also extracted the total in-focus exposure time, number of verbal mentions, and equivalent advertising dollar value for each tobacco sponsor reported for each racing series. We summed these values over each racing series and year to obtain estimates of the brand-specific advertising value achieved for each cigarette and smokeless tobacco brand for each racing series and year and of the total event audience and television viewing audience for each racing series and year.

Note that the sum of event audiences given for each racing series likely represents unduplicated audiences (i.e., distinct individuals) because the events tended to take place in different geographic locations. However, the sum of event audiences across different racing series and the sum of television audiences represent a duplicated audience estimate (i.e., not distinct individuals). Many of the same individuals probably view multiple automobile races; thus, for example, a total viewing audience of 50 million for a racing series does not mean that 50 million different people viewed an event but that the total of the individual viewing audiences for each event is 50 million.

Results

In 1999, the 11 racing series in our study comprised 211 events and 600 broadcasts that were televised by 10 networks (3 broadcast and 7 cable stations). The races were attended by a total of 17.3 million people (average of approximately 82 000 per race) and watched on television by an average of 2.4 million viewers per race (Table 1). The average television audience per race ranged from 300 000 for the Indy Lights Championship to 6.8 million for the National Association of Stock Car Auto Racing (NASCAR) Winston Cup series. Tobacco companies achieved a total of \$156.8 million of advertising exposure through these races. The highest tobacco advertising value achieved within a single racing series was \$100.0 million for the NASCAR Winston Cup series.

During 1999, nine brands of cigarettes and smokeless tobacco products achieved a total television exposure time of 56 hours and 54 minutes and a total of 8408 verbal mentions through the 11 racing series in our study (Table 2). The greatest exposure time (22 hours, 11 minutes, 44 seconds) and number of verbal mentions (3462) were achieved through the NASCAR Winston Cup series. The greatest advertising exposure achieved by a single brand within a single racing series was the 19 hours, 29 minutes, and 40 seconds of advertising exposure; 3345 verbal mentions; and \$87.9 million of advertising value achieved by Winston through the NASCAR Winston Cup series.

During the period 1997 through 1999, tobacco products achieved between 55 and 57 hours of television exposure per year and between \$123 million and \$157 million in television advertising value per year through motor sports sponsorship, for a total of 169 hours of exposure and \$410.5 million of advertising value during the 3-year period (Table 3). Brands with the highest achieved television advertising value during this period were Winston (\$305.8 million), Skoal (\$32.2 million), Marlboro (\$22.1 million), and Kool (\$18.1 million).

The analysis of the effect of the Master Settlement Agreement on achieved television advertising of cigarettes showed that if the 3 cigarette companies that currently sponsor motor sports comply with the settlement by restricting themselves to the sponsorship of 1

TABLE 1—Televised Motor Sports Series: Audience Statistics and Equivalent Dollar Value of Tobacco Advertising, 1999

Racing Series	Networks	No. of Races (No. of Telecasts)	Total Viewing Audience, Millions	Average Viewing Audience per Race, Millions	Total Attendance, Millions	Average Attendance per Race	Equivalent Dollar Value of Tobacco Advertising, Millions	Tobacco Advertising Value as Percentage of Total Value for All Sponsors
NASCAR Winston Cup	ABC, CBS, NBC, TNN, TBS, ESPN/2	34 (108)	230.6	6.8	4.4	130 088	100.0	7.0
NASCAR Busch	ABC, CBS, NBC, TNN, TBS, ESPN/2	32 (81)	81.6	2.5	1.9	58 208	18.3	3.1
CART Championship	ABC, ESPN, ESPN2	20 (40)	42.5	2.1	2.5	126 208	11.5	5.4
Special events[a]	CBS, TNN, SUN, FOXSP, ESPN/2	8 (13)	14.1	1.8	0.4	52 625	11.3	19.7
NHRA Winston Drag Racing	ABC, TNN, FOXSP, SPDV, ESPN/2	23 (108)	30.3[b]	1.3[b]	2.3	101 172	10.6	10.0
NASCAR Truck	ABC, CBS, ESPN/2	25 (66)	33.5	1.3	0.9	34 184	2.9	1.5
ARCA Series	TNN, TBS, SPDV, FOXSP, ESPN/2	20 (48)	19.8	1.0	0.6	29 455	1.4	3.7
Indy Racing League	ABC, FOXSP, ESPN/2	12 (17)	18.8	1.6	0.8	67 500	0.7	0.5
Indy Lights Championship	ESPN2	12 (25)	3.9	0.3	1.4	112 775	0.1	2.9
SCCA Trans-Am	TNN, FOXSP, SPDV	13 (50)	18.4	1.4	1.1	81 304	0.01	0.1
Barber Dodge Pro Series	ESPN2	12 (44)	4.7	0.4	1.1	89 213	0.006	0.4
Total (11 series)	10 networks	211 (600)	498.3	2.4	17.3	81 954	156.8	5.6

Note. NASCAR = National Association of Stock Car Auto Racing; ESPN/2 = ESPN and ESPN2; SPDV = Speedvision; FOXSP = Fox Sports Network; SUN = Sunshine Network; CART = Championship Auto Racing Team; NHRA = National Hot Rod Association; ARCA = Automobile Racing Club of America; SCCA = Sports Car Club of America.

[a]Includes The Winston and selected races from the NASCAR Slim Jim All Pro Series, Featherlite Modified Tour Series, and Busch North Series.

[b]Viewer audience figures for NHRA Winston Cup Series indicate the number of households viewing the event; data on number of individual viewers were not available for this series.

racing series per year (and choose as their brand-name sponsorship the event series for which they achieved the greatest advertising value in 1999), the total achieved television advertising value per year by the 3 companies will be $99.1 million, or 70.4% of the actual 1999 advertising value achieved by these companies (Table 4). R.J. Reynolds, through Winston sponsorship of the NASCAR Winston Cup series, could continue to achieve a television advertising value of $87.9 million, or 68.1% of the company's current achieved advertising value. Brown & Williamson, through Kool sponsorship of a Championship Auto Racing Team, could continue to achieve a television advertising value of $8.4 million, or 99.3% of the company's current achieved advertising value. Philip Morris, through Marlboro sponsorship of a Championship Auto Racing Team, could continue to achieve a television advertising value of $2.8 million, or 86.8% of the company's current achieved advertising value. The companies would still achieve more than 25 hours of exposure and 3408 verbal mentions for their cigarette brands per year. This analysis assumes, of course, that companies do not increase their advertising presence at these racing series.

Discussion

To the best of my knowledge, this is the first systematic evaluation since 1993 of tobacco television advertising achieved through motor sports sponsorship in the United States. Despite a federal ban on the advertising of tobacco products on television, during the period 1997 through 1999, tobacco companies were able to achieve 169 hours of television advertising exposure and $410.5 million of advertising value for their products by sponsoring televised motor sports events. Although the Federal Trade Commission (FTC) does not collect data on this embedded television advertising, the $123.3 million in television advertising achieved by tobacco companies in 1997 represents 21% of the total reported cigarette advertising expenditures through newspapers, magazines, outdoor advertisements, and transit advertisements for that same year ($575.7 million).[29] The $156.8 million in television advertising value achieved by tobacco companies in 1999 represents 76% of their television advertising budget in 1970 in nominal dollars ($205.0 million)[29] and 18% of their 1970 television advertising budget in real dollars.

Not only are tobacco companies successful in achieving a high level of tobacco advertising for their products, but also the potential exposure to this advertising is great. In 1999, a total of 17.3 million people (average of 82 000 per race) attended the 211 races in our sample, and these events were viewed on television by an average of 2.4 million people per race.

The Master Settlement Agreement limits each cigarette company to 1 brand-name sponsorship of a racing series per year, beginning in November 2001.[31] Although the settlement was widely reported to have limited each company to sponsorship of a single event,[44,45] the text of the agreement states that "sponsorship of a single national or multi-state series or tour . . . constitutes one Brand Name Sponsorship."[31] My analysis of the potential effect of this settlement provision indicates that if the cigarette companies comply with the provision and also do not increase their advertising presence at races from 1999 levels, the companies still will be able to achieve a combined total of more than 25 hours of television exposure, more than 3000 verbal mentions, and an equivalent annual television advertising value that represents over 70% of the 1999 advertising value. Thus, the tobacco settlement is unlikely to have any major effect on the marketing of cigarettes

TABLE 2—Televised Motor Sports Series Achieved Tobacco Advertising, Total and by Most Advertised Brand: 1999

Racing Series	Tobacco Brands Advertised	Total Achieved Exposure Time, All Brands[a]	Total No. of Verbal Mentions, All Brands	Total Equivalent Advertising Dollar Value, All Brands, Millions	Two Most Heavily Advertised Brands	Total Achieved Exposure Time[a]	Total No. of Verbal Mentions	Total Equivalent Advertising Dollar Value, Millions
NASCAR Winston Cup	Camel, Kodiak, Levi Garrett, Marlboro, Skoal, Winston	22:11:44	3462	100.0	Winston	19:29:40	3345	87.9
					Skoal	01:50:05	53	7.9
NASCAR Busch	Marlboro, Red Man, Skoal, Winston	06:48:13	1506	18.3	Winston	05:43:11	1431	16.0
					Red Man	00:57:50	75	2.1
CART Championship	Camel, Kool, Marlboro, Winston	06:01:30	113	11.5	Kool	04:29:50	61	8.4
					Marlboro	01:28:37	2	2.8
Special events[b]	Skoal, Winston	01:10:40	356	11.3	Winston	01:07:15	353	10.8
					Skoal	00:03:23	0	0.4
NHRA Winston Drag Racing	Copenhagen, Kodiak, Marlboro, Skoal, Winston	14:55:03	2480	10.6	Winston	13:17:48	2369	9.9
					Copenhagen	01:20:32	111	0.6
NASCAR Truck	Kool, Marlboro, Red Man, Skoal, Winston	03:47:32	180	2.9	Winston	03:16:10	180	2.5
					Marlboro	00:10:59	0	0.1
ARCA Series	Copenhagen, Red Man, Skoal, Winston	00:47:19	264	1.4	Winston	00:46:59	261	1.4
					Red Man	00:00:00	3	0.009
Indy Racing League	Marlboro, Skoal, Winston	00:19:14	21	0.7	Winston	00:13:57	21	0.5
					Skoal	00:03:05	0	0.08
Indy Lights Championship	Kool, Marlboro, Winston	00:43:46	20	0.1	Marlboro	00:23:29	0	0.06
					Kool	00:19:37	16	0.06
SCCA Trans-Am	Marlboro, Winston	00:04:11	6	0.01	Marlboro	00:04:11	0	0.009
					Winston	00:00:00	6	0.002
Barber Dodge Pro Series	Kool, Marlboro, Red Man, Winston	00:04:48	0	0.006	Winston	00:02:32	0	0.003
					Marlboro	00:01:20	0	0.002
Total (11 series)	9 brands	56:54:00	8408	156.8	Winston	44:01:13	8020	129.1
					Skoal	02:11:02	53	8.6

Note. NASCAR = National Association of Stock Car Auto Racing; CART = Championship Auto Racing Team; NHRA = National Hot Rod Association; ARCA = Automobile Racing Club of America; SCCA = Sports Car Club of America.
[a]Exposure time is recorded in units of hours:minutes:seconds.
[b]Includes The Winston and selected races from the NASCAR Slim Jim All Pro Series, Featherlite Modified Tour Series, and Busch North Series.

TABLE 3—Tobacco Advertising Achieved Through Televised Motor Sports Events, by Brand: 1997–1999

	1997		1998		1999		Total (1997–1999)	
Brand	Achieved Exposure Time[a]	Equivalent Dollar Value, Millions	Achieved Exposure Time[a]	Equivalent Dollar Value, Millions	Achieved Exposure Time[a]	Equivalent Dollar Value, Millions	Achieved Exposure Time[a]	Equivalent Dollar Value, Millions
Camel	03:12:51	11.4	00:01:05	0.05	00:00:14	0.05	03:14:10	11.5
Kool	03:35:23	1.9	06:54:04	7.8	04:49:54	8.5	15:19:21	18.1
Marlboro	12:24:17	11.9	06:38:49	7.0	02:11:29	3.2	21:14:35	22.1
Winston	31:16:22	80.4	33:25:18	96.2	44:01:13	129.1	108:42:53	305.8
Copenhagen	00:46:19	0.5	01:10:12	1.5	01:20:33	0.6	03:17:04	2.7
Kodiak	01:17:27	4.8	01:06:28	3.4	00:39:23	3.1	03:03:18	11.3
Red Man	00:19:24	0.3	00:50:50	1.2	01:03:42	2.2	02:13:56	3.7
Skoal	04:26:50	11.9	04:04:01	11.7	02:11:02	8.6	10:41:53	32.2
R.J. Reynolds	00:00:21	0.2	00:00:12	0.3	00:00:17	0.3	00:00:50	0.8
US Tobacco	00:00:00	0	00:58:46	1.2	00:36:09	1.1	01:34:55	2.2
Total[b]	57:19:26	123.3	55:09:57	130.4	56:54:00	156.8	169:23:23	410.5

[a]Exposure time is recorded in units of hours:minutes:seconds.
[b]Total slightly exceeds sum of entries in table because small amounts of advertising for Doral, Newport, and Levi Garrett are not included as table entries.

through motor sports sponsorship. Moreover, the assumption that cigarette companies would maintain advertising at current levels is unlikely to hold; even without a restriction on sponsorship, Winston has steadily increased its annual television advertising value achieved through the Winston Cup series from $57.1 million in 1997 to $87.9 million in 1999.

The Master Settlement Agreement actually may allow cigarette companies to sponsor multiple racing series, because it lists NASCAR as an example of a single racing series.[31] If this interpretation is correct, then the Master Settlement Agreement would have even less of an effect on cigarette marketing through motor sports sponsorship. For example, R.J. Reynolds could choose to continue Winston sponsorship of the NASCAR Winston Cup,

TABLE 4—Analysis of Effect of Master Settlement Agreement on Realized Television Advertising Through Motor Sports Sponsorship (Assuming No Increase in Brand-Specific Television Advertising Exposure From 1999 Levels)[a]

Company	Probable Brand Chosen	Probable Racing Series Chosen	Nature of Sponsorship	Estimated Achieved Exposure Time[b]	Estimated No. of Verbal Mentions	Estimated Equivalent Dollar Value of Advertising, Millions	Estimated Advertising Value as Percentage of Actual 1999 Value for Company[c]
R.J. Reynolds	Winston	NASCAR Winston Cup	Series/Event	19:29:40	3345	87.9	68.1
Brown & Williamson	Kool	CART Championship	Team	04:29:50	61	8.4	99.3
Philip Morris	Marlboro	CART Championship	Team	01:28:37	2	2.8	86.8
Total				25:28:07	3408	99.1	70.4

Note. NASCAR = National Association of Stock Car Auto Racing; CART = Championship Auto Racing Team.

[a]This table presents the exposure time, number of verbal mentions, and equivalent dollar value of television advertising for cigarettes that would be achieved through motor sports sponsorship if cigarette companies comply with the Master Settlement Agreement (by limiting themselves to 1 brand-name sponsorship per year) and continue their advertising presence for allowed sponsorships at their 1999 levels. It is assumed that companies would choose as their brand-name sponsorship the event series for which they achieved the greatest advertising value in 1999.

[b]Exposure time is recorded in units of hours:minutes:seconds.

[c]Actual 1999 advertising value is the total achieved television advertising value for all cigarette brands produced by that company that gained advertising exposure through televised motor sports events (R.J. Reynolds: Camel and Winston; Brown & Williamson: Kool; Philip Morris: Marlboro).

NASCAR Busch, and NASCAR Truck series. At 1999 advertising levels, the company would achieve annual television exposure of 28 hours and an advertising value of $106 million for its Winston product by sponsoring these 3 series. This represents 82% of the advertising value R.J. Reynolds achieved in 1999 for all its cigarette products through all racing series covered by *Sponsors Report*.

This study probably underestimated the true amount of television advertising value achieved by tobacco companies through sponsorship of motor sports, for several reasons. First, not every racing event or series is covered by *Sponsors Report*. For example, none of the international Formula One races are included, even though many of these races are broadcast in the United States.

Second, television shows about racing were not included in the study. For example, Blum[22] reported that during a single month (January 1989), Winston achieved more than 58 minutes of exposure through the "Inside Winston Cup" television show alone.

Third, exposure of cigarette brand names and logos through sports and racing magazines was not captured by this study. For example, a spring 2000 special issue of *ESPN The Magazine* featured a front-page picture of 2 race-car drivers with the words "Winston Cup 2000."[46] This amounted to the equivalent of a free front-page advertisement for the Winston product.

Fourth, exposure to on-site promotions and advertising that accompany tobacco-sponsored racing events was not captured by this study. The Master Settlement Agreement allows tobacco companies to continue the marketing, distribution, and sale of specialty item merchandise at the site of their chosen brand-name sponsorships and to continue outdoor and billboard advertising at the site of a brand-name sponsorship for a 3-month period around each sponsored event.[31]

Fifth, the advertising dollar equivalents reported in this article refer to only broadcasts in the United States. In some cases, motor sports events are recorded and broadcast in other countries, so that additional advertising value for the sponsorship dollar is obtained.

The results of this study are particularly alarming in light of the effect tobacco motor sports sponsorship has on youth smoking attitudes and behaviors[35–43] and the growing popularity of car racing among youths.[8,47,48] According to the *Washington Post,* "NASCAR is targeting young customers with everything from amusement parks to NASCAR Barbie, grooming its next generation of fans even as TV ratings and race-day attendance soar."[47]

One potential criticism of this research is that short, repeated exposures to brand logos on race cars may not be as effective as an uninterrupted 30-second television commercial. However, a recent study that compared brand recall following exposure to a television clip of a NASCAR race or a 30-second commercial found that brand recall and attitudes toward advertised brands were significantly better for products that appeared prominently on race cars.[49] Multiple brief exposures during a race may be more powerful than uninterrupted exposure during a commercial because people may leave the room during a commercial or may enter into conversation or become distracted.[8] In addition, people generally do not recognize sponsorship as a tool of persuasion, so they are not likely to generate counterarguments, as they may do in response to a recognized advertisement. Several studies have documented high levels of brand awareness, brand recall, and brand loyalty for sponsoring products among automobile racing fans.[8,11,50–52]

Several strategies could be used to counteract the tobacco industry's use of motor sports sponsorship as a promotional tool. As early as 1986, legislation was introduced into Congress that would have eliminated brand-name sponsorship of sporting events by tobacco companies.[24] The recently overturned Food and Drug Administration tobacco regulations also would have eliminated tobacco brand-name sponsorship of sporting events.[19] Several states in Australia have enacted legislation that eliminates tobacco sponsorship of sport and allocates a portion of cigarette tax revenues to provide an alternative source of funding for sports sponsorship.[10,53–55] Sports sponsorship itself has been used as a tool to promote health messages.[56,57] Several organizations have used automobile races to counterpromote tobacco.[23,58] A California-based project has created a tobacco-free racing car and team that competes in motor sports events.[59]

An alternative approach that does not involve the enactment of new legislation or funding of new programs is simply enforcing the provisions of the Cigarette Labeling and Advertising Act. A strong precedent exists for this: in 1996 and 1997, the Department of Justice used the act to force tobacco companies to remove cigarette billboards from more than a dozen stadiums and arenas throughout the country.[60–62] The Department of Justice obtained court orders against Philip Morris in 1995 to prevent it from placing cigarette advertisements in arenas and stadiums so that they would be in view of television cameras, and the company entered into a 10-year consent agreement to remove all signs from locations in professional baseball, basketball, football, and hockey arenas that may reasonably be expected to appear on television programs.[60–62] There is no reason that the Department of Justice could not also use the Cigarette Labeling and Advertising Act to force the removal of cigarette logos and advertisements from locations likely to appear on television during automobile racing events. A legal ruling exists that supports the authority of the Department of Justice to address the problem of tobacco company circumvention of the Cigarette Labeling and Advertising Act through embedded television commercials.[63]

A precedent also exists for the FTC to enforce the ban on television advertising of smokeless tobacco products contained in the Comprehensive Smokeless Tobacco Health Education Act of 1986.[64,65] In 1991, the FTC entered into a consent agreement with Pinkerton Tobacco Company, in which the company agreed to discontinue advertising smokeless tobacco products on television by placing its brand name and logo in areas likely to be viewed by television cameras during sponsored truck and tractor events.[64,65] There appears to be no reason that the FTC could not take similar action with regard to the widespread smokeless tobacco product advertising on television achieved through motor sports sponsorship documented in this study.

This study found that despite a federal ban on tobacco advertising on television, tobacco companies achieve the equivalent of more than $150 million in television advertising per year through their sponsorship of televised motor sports events and that the Master Settlement Agreement likely will do little to address this problem. If public health practitioners are serious about reducing tobacco use, they must find an effective way to counteract this major form of tobacco product promotion. □

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References

1. Gardener MP, Shuman PJ. Sponsorship: an important component of the promotions mix. *J Advertising*. 1987;16:11–17.
2. Mescon TS, Tilson DJ. Corporate philanthropy: a strategic approach to the bottom line. *Calif Manage Rev*. 1987;29:49–61.
3. Ukman L. The special event: finding its niche. *Public Relations J*. 1984;40:21.
4. Abratt R, Clayton BC, Pitt LF. Corporate objectives in sports sponsorship. *Int J Advertising*. 1987;6:299–311.
5. Abratt R, Grobler PS. The evaluation of sports sponsorships. *Int J Advertising*. 1989;8:351–362.
6. Mihalik BJ. Sponsored recreation: a look at sponsors' program objectives and tactics, and guidelines for administration. *Public Relations J*. 1984;40:22–25.
7. Nothing sells like sports. *Business Week*. August 31, 1987;59:48–53.
8. Hagstrom RG. *The NASCAR Way: The Business That Drives the Sport*. New York, NY: John Wiley & Sons Inc; 1998.
9. Blum A. Tobacco industry sponsorship of sports: a growing dependency. In: Durston B, Jamrozik K, eds. *Tobacco and Health 1990—The Global War: Proceedings of the Seventh World Conference on Tobacco and Health*. Perth, Australia: Health Department of Western Australia; 1990: 882–884.
10. Holman CDJ, Donovan RJ, Corti B, Jalleh G, Frizzell SK, Carroll AM. Banning tobacco sponsorship: replacing tobacco with health messages and creating health-promoting environments. *Tob Control*. 1997;6:115–121.
11. Buchanan DR, Lev J. *Beer and Fast Cars: How Brewers Target Blue-Collar Youth Through Motor Sport Sponsorships*. San Rafael, Calif: Marin Institute for the Prevention of Alcohol and Other Drug Problems and AAA Foundation for Traffic Safety; 1990.
12. Dewhirst T. Tobacco sponsorship is no laughing matter. *Tob Control*. 1999;8:82–84.
13. Epps RP, Lynn WR, Manley MW. Tobacco, youth, and sports. *Adolesc Med*. 1998;9: 483–490.
14. Bates C. Tobacco sponsorship of sport. *Br J Sports Med*. 1999;33:299–300.
15. *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Atlanta, Ga: National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 1994.
16. *Tobacco Use Among US Racial/Ethnic Minority Groups—African Americans, American Indians and Alaska Natives, Asian Americans and Pacific Islanders, and Hispanics: A Report of the Surgeon General*. Atlanta, Ga: National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 1998.
17. Lynch BS, Bonnie RJ, eds. *Growing Up Tobacco Free: Preventing Nicotine Addiction in Children and Youths*. Washington, DC: National Academy Press; 1994.
18. US Food and Drug Administration. Regulations restricting the sale and distribution of cigarettes and smokeless tobacco to protect children and adolescents; proposed rule. 60 *Federal Register* 41314–41786 (1995) (codified at 21 CFR Part 801, et al).
19. US Food and Drug Administration. Regulations restricting the sale and distribution of cigarettes and smokeless tobacco to protect children and adolescents; final rule. 61 *Federal Register* 44396–45318 (1996) (codified at 21 CFR Part 801, et al).
20. Slade J. Tobacco product advertising during motor sports broadcasts: a quantitative assessment. Paper presented at: Ninth World Conference on Tobacco and Health; October 10–14, 1994; Paris, France.
21. Madden PA, Grube JW. The frequency and nature of alcohol and tobacco advertising in televised sports, 1990 through 1992. *Am J Public Health*. 1994;84:297–299.
22. Blum A. The Marlboro Grand Prix: circumvention of the television ban on tobacco advertising. *N Engl J Med*. 1991;324:913–917.
23. Connolly GN, Orleans CT, Blum A. Snuffing tobacco out of sport. *Am J Public Health*. 1992; 82:351–353.
24. Locke DA. Counterspeech as an alternative to prohibition: proposed federal regulation of tobacco promotion in American motorsport. *Ind Law J*. 1994;70:217–253.
25. Longaker RA. Comment: warning: your tobacco sponsorship may be hazardous to our nation's health. *Villanova Sports Entertainment Law J*. 1998;5:165–195.
26. Patrick BJ. Comment: snuffing out the First Amendment: the FDA regulation of tobacco company advertising and sports sponsorships under the Federal Food, Drug, and Cosmetic Act. *Marquette Sports Law J*. 1997;8:139–179.
27. Matthews SD. Note: will NASCAR have to put on the brakes? The constitutionality of the FDA's ban on brand-name tobacco sponsorship in motor sports. *Ind Law Rev*. 1998;31:219–258.
28. Alm R. Cigarette ban may hurt auto racing most. *Dallas Morning News*. August 25, 1996:F1.
29. *Federal Trade Commission Report to Congress for 1998: Pursuant to the Federal Cigarette Labeling and Advertising Act*. Washington, DC: Federal Trade Commission; 2000.
30. *IEG Custom Research Report for Boston University School of Public Health*. Chicago, Ill: IEG Inc; 1998.
31. National Association of Attorneys General. *Multistate Settlement With the Tobacco Industry*. Boston, Mass: Tobacco Control Resource Center Inc and the Tobacco Products Liability Project; 2000. Available at: http://tobacco.neu.edu/Extra/multistate_settlement.htm#MASTER. Accessed June 7, 2000.
32. *What Is the Sponsors Report?* Ann Arbor, Mich: Joyce Julius & Associates Inc; 1998.
33. The Federal Cigarette Labeling and Advertising Act, 15 USC §1335 (1998).
34. The Comprehensive Smokeless Tobacco Health Education Act of 1986, 15 USC §4402 (1998).
35. Aitken PP, Leathar DS, Squair SI. Children's awareness of cigarette brand sponsorship of sports and games in the UK. *Health Educ Res*. 1986;1:203–211.
36. Ledwith F. Does tobacco sports sponsorship on television act as advertising to children? *Health Educ J*. 1984;43:85–88.
37. Meier KS. Tobacco truths: the impact of role models on children's attitudes toward smoking. *Health Educ Q*. 1991;18:173–182.
38. Aitken PP, Leathar DS, O'Hagan FJ. Children's perceptions of advertisements for cigarettes. *Soc Sci Med*. 1985;21:785–797.
39. Hoek J, Gendall P, Stockdale M. Some effects of tobacco sponsorship advertisements on young males. *Int J Advertising*. 1993;12:25–35.
40. Nelson E, While D. Children's awareness of cigarette advertisements on television. *Health Educ J*. 1992;51:34–37.
41. Charlton A, While D, Kelly S. Boys' smoking and cigarette-brand-sponsored motor racing. *Lancet*. 1997;350:1474.
42. Vaidya SG, Naik UD, Vaidya JS. Effect of sports sponsorship by tobacco companies on children's experimentation with tobacco. *BMJ*. 1996;313:400.
43. Vaidya SG, Vaidya JS, Naik UD. Sports sponsorship by cigarette companies influences the adolescent children's mind and helps initiate

smoking: results of a national study in India. *J Indian Med Assoc*. 1999;97:354–359.

44. Bloomberg News. Advertising & marketing: Reynolds to end race sponsorship. *Los Angeles Times*. October 13, 1999:C5.
45. Flynn A. Deal would curb tobacco sponsors. *The Arizona Republic*. November 13, 1998:A24.
46. *ESPN The Magazine* (Special Issue: Winston Cup 2000 Preview). Spring 2000.
47. Clarke L. To attract kids, stock car racing shifts gears. *Washington Post*. May 22, 1998:A1.
48. Whiting A, Verma R. Health: watching tobacco-sponsored sports can harm your health. *Inter Press Service World News.* November 20, 1997. Available at: http://www.oneworld.org/ips2/nov/tobacco2.html. Accessed February 9, 1999.
49. Brand recall: NASCAR sponsorship versus 30-second commercials. *A Second Look at Sponsorship Exposure in Sports Marketing*. 2000; 10(1):3–4.
50. Hassell G. Speed sells. Firms race to sponsor Grand Prix: growing following makes sponsorships lucrative. *Houston Chronicle*. October 2, 1998:D1.
51. NASCAR sells products—but which ones? *Motorsports Marketing News*. 1992;8(2):2.
52. NASCAR brand loyalty: top 25. *Motorsports Marketing News*. 1992;8(2):2–3.
53. Powles JW, Gifford S. Health of nations: lessons from Victoria, Australia. *BMJ*. 1993;306: 125–127.
54. Musk AW, Shean R, Walker N, Swanson M. Progress on smoking control in Western Australia. *BMJ*. 1994;308:395–398.
55. World no-tobacco day targets sports and the arts [Medical News and Perspectives]. *JAMA*. 1996; 275:1220.
56. Corti B, Donovan RJ, Holman CDJ, Coten N, Jones SJ. Using sponsorship to promote health messages to children. *Health Educ Behav*. 1997; 24:276–286.
57. Hastings GB, MacAskill S, McNeill REJ, Leathar DS. Sports sponsorship in health education. *Health Promotion*. 1988;3:161–169.
58. Blom ED. Tobacco free at the Indianapolis 500. *Ind Med*. 1996;89:207–209.
59. Olson CK. Countering pro-tobacco influences at the racetrack. *Am J Public Health*. 1999;89: 1431–1432.
60. Farhi P. Tobacco moving out of spotlight: Philip Morris agrees to reposition arena ads away from TV cameras. *Washington Post*. June 7, 1995:F1.
61. Vicini J. Philip Morris to curb cigarette ads at sports stadiums. *Chicago Sun-Times*. June 7, 1995:61.
62. Justice takes steps to ensure smoke-free Super Bowl broadcast [press release]. Washington, DC: US Dept of Justice; January 22, 1997. Available at: http://www.usdoj.gov/opa/pr/1997/January97/028civ.htm. Accessed December 20, 1998.
63. *Action for Children's Television v Federal Communications Commission, et al,* 999 F2d 19 (1st Cir 1993).
64. Pinkerton Tobacco Co. Proposed consent agreement with analysis to aid public comment. 56 *Federal Register* 57009–57011 (1991).
65. Pinkerton Tobacco Co. Prohibited trade practices and affirmative corrective actions. 57 *Federal Register* 4634 (1992).