
Youth Exposure to Alcohol Product Advertising on Local Radio in 75 U.S. Markets, 2009



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Introduction

In the United States, alcohol use continues to be the leading drug problem among youth, as it has been since the federal government began measuring youth drug use in 1975.¹ According to the latest data, 10.4 million or 27.5 percent of young people in the U.S., ages 12 to 20, reported drinking in the past month.² Of those, 6.9 million (18.1%) reported that they engaged in binge drinking (that is, drinking five or more drinks at one sitting and usually within two hours). Alcohol use is responsible for 4,600 deaths per year among young people under age 21.³

Every day, 4,750 young people under the age of 16 have their first full drink of alcohol,⁴ and more than 90 percent of the alcohol consumed by youth occurs on binge occasions.⁵ This is particularly concerning because the earlier in life alcohol use commences, the greater the risk of health and social problems. Young people who start drinking before the age of 15 are four times more likely to become alcohol dependent than those who wait until they are 21.⁶ Also, compared to those who wait until age 21, young people who start drinking before age 14 are six times more likely to be in a motor vehicle crash or a physical fight because of drinking.⁷

At least 13 longitudinal studies have found a strong association between youth exposure to alcohol marketing and underage drinking, even after controlling for other factors that could potentially influence this relationship (e.g., socioeconomic status and parenting style).⁸ Youth exposure to alcohol marketing can increase the likelihood that young people will begin drinking, or if they already consume alcohol, will drink more. Protecting youth from exposure to alcohol advertising and marketing is, therefore, of public health importance.

To limit youth exposure to alcohol advertising, the alcohol industry, during the time frame run in this report, adhered to its own rules for not placing ads in media venues where underage youth are greater than or equal to 30 percent of the total audience. The industry has chosen this “proportional” standard because approximately 30 percent of the U.S. population is under 21 years of age. However, the National Research Council and Institute of Medicine as well as numerous state attorneys-general have called for a proportional 15 percent standard because approximately 15 percent of the U.S. population is ages 12 to 20 years, and this is the population at greatest risk of engaging in underage drinking.^{9,11} If the acceptable youth audience composition threshold were lowered to 15 percent, the result would likely be a substantial decline in youth exposure to alcohol advertising, assuming the alcohol industry did not increase its overall advertising expenditures. Lowering the standard to 15 percent would have little impact on adult exposure to such advertising.¹⁰

Radio advertising has long offered companies the ability to tailor their message to a local market. In fact, radio remains second only to television as the most widespread media platform, despite the proliferation and innovation of digital media, with 93 per-

cent of Americans age 12 and above reporting that they owned and/or used an AM-FM radio in 2011.* Therefore, it is important to assess youth exposure to alcohol marketing on radio to assure that the industry is in compliance with the 30 percent standard for youth audience composition and to assess whether youth are being overexposed to alcohol marketing on a per capita basis.

For this report, the Center on Alcohol Marketing and Youth (CAMY) at the Johns Hopkins Bloomberg School of Public Health analyzed alcohol advertisements placed on radio in the 75 local markets in the United States in 2009, the latest year for which full-year data from a consistent survey methodology were available. These markets represent approximately 46.5 percent of the U.S. population age 12 and above.

METHODS

Working in collaboration with Virtual Media Resources (VMR), a media consulting firm with more than 25 years of advertising research experience, CAMY assessed whether advertising placements adhered to the industry's 30 percent proportional standard and whether youth under age 21 years were overexposed to alcohol advertising in 2009. Overexposure occurs when the proportion of the listening audience ages 12-20 years exceeds the proportion of the total market population ages 12-20 years,[†] which is, on average, about 15 percent. Overexposure was determined by comparing per capita exposure to alcohol advertising on radio of people under age 21 with those 21 and older (i.e., of legal drinking age).

Audience Composition

Data on the composition of radio audiences—including age, sex, and market location—came from Arbitron Ratings Inc., the leading source for radio audience measurements. Arbitron surveys its markets several times each year; the number of surveys depends on the measurement method and the market size. Each product advertisement was matched to the appropriate Arbitron audience measures by survey time period, station, and daypart.[‡] By 2009, Arbitron had implemented in numerous media markets (29 markets as of December 2009 and 40 markets as of December 2010[§]) a new method of measuring listening, in which survey participants were asked to wear or carry a small device (“portable people meter,” or PPM[™]) that receives a special signal from each radio station, instead of asking them to keep a paper “diary” of their radio listening in 15-minute increments throughout the day. PPMs allow for more precise measurement of actual listening because they do not depend on survey participants' active recall and do not require them to record their listening behavior in a paper diary.^{**} Furthermore, PPM measurements include listeners age 6 and above, while diary measurements include only listeners age 12 and above.^{††} Arbitron has deployed PPMs in larger markets first, and is expanding to medium and smaller markets (see Figure A1 in Appendix A for more details).

* In their 19th report on the future of radio since 1998, Arbitron and Edison Research surveyed 2,020 persons in a national telephone (landline and cell phone) poll. Titled “The Infinite Dial 2011: Navigating Digital Platforms,” the study found that only TV ownership and use outstripped radio. However, the previous year's report, a survey of 1,753 persons titled “The Infinite Dial 2010: Digital Platforms and the Future of Radio,” noted that while 39 percent of respondents said they first learn about new music from radio, compared to 31 percent who rely on the Internet, younger listeners, ages 12 to 34, reported relying more on Internet than radio for learning about new music, 52 percent and 32 percent, respectively.

† Youth exposure and overexposure (as well as other comparisons of youth and adult exposure to alcohol advertising mentioned in this report, or when saying that advertising is “more likely to be heard by” one audience subgroup) are based on “gross rating points,” which measure how much an audience segment is exposed to advertising per capita. Another way of measuring advertising exposure is “gross impressions” (the total number of times all members of a given audience are exposed to advertising). The adult population will almost always receive far more gross impressions than youth because there are far more adults in the population than youth. To calculate gross rating points, one divides gross impressions by the relevant population (e.g., people age 21 and over) and multiplies by 100, resulting in a more comparable per capita measurement. See Appendix C for a glossary of terms.

‡ Dayparts break the time of day into discrete time periods such as “morning drive time” or “midday.” See Appendix A for a breakdown of dayparts.

§ As of December 2010, PPM surveys were deployed in 40 major markets, as well as four submarkets embedded within some of the major markets.

** “Passive” measures such as television “people meters,” radio PPMs, and Internet tracking software are increasingly deployed in media research to cope with fragmentation among many media channels, channel switching, and out-of-home or portable media exposure. “Active” methods such as paper diaries depend on recall and are restricted to predefined time increments.

†† The sample universe for Arbitron PPM markets is age 6 and above; for diary markets the sample is age 12 and above.

Because data collected under the two different methodologies are not directly comparable, this analysis of youth exposure to alcohol advertising on radio was restricted to the 11 markets for which PPMs were used for all of 2009 and the 64 markets for which diaries were used for all of 2009.

Advertising Placement

Data on the placement of alcohol advertising on spot (local) radio, also known as “occurrence data,” came from Mediaguide, a monitoring company that provides detailed information about advertising and programming for approximately 2,500 stations in 107 local markets using its “audio fingerprint” technology. Mediaguide provided station, date, time, and brand data, as well as copies of the actual commercials so that they could be classified for analysis. Each unique spot radio advertisement was coded by CAMY as either a product or nonproduct ad. Nonproduct advertisements included “responsibility,” corporate, sponsorship, or event ads. Only product advertisements (90.7% of all local radio advertisements in this period in these markets) are included in this report.

Brand Information

Impact Databank, a market research standard in the alcoholic beverage business, was the source for all brand and parent company information. All brand names were standardized across Mediaguide and Arbitron sources.

Data Analysis

For each ad placement, compliance with the alcohol industry’s standards was measured by calculating the underage audience composition, relative to the under-21 population universe defined by Arbitron for each market. For PPM markets, Arbitron defines the market population as persons ages 6 and older. For these markets, CAMY calculated the underage audience composition as the age 6-20 audience as a proportion of the total audience ages 6 and above. In contrast, for diary markets, Arbitron defines the market population as people age 12 and above, and thus CAMY calculated underage audience composition as the age 12-20 audience as a proportion of the total audience age 12 and above. An ad was noncompliant with industry standards if it exceeded a 30 percent underage audience. The number of noncompliant ads, and the age 12-20 youth exposure that was generated from noncompliant ads, was stratified by beverage type, brand, and media market.

Brand advertising practices were assessed using two methods. First, we ranked brands based on the total non-compliant youth exposure. The brands responsible for half of all noncompliant exposure were identified. Since this method disproportionately highlighted the largest brands, we used a second method that balanced large and small brands. In the second method, we analyzed brand advertising in each radio market and counted the number of radio markets in which any brand generated at least 25 percent of its youth exposure from noncompliant ad placements. We chose 25 percent because it was a cut-off value that was above the median value for both diary and PPM markets and thus represented a relatively high level of youth exposure from noncompliant ads. To calculate the proportion of radio markets in which a brand generated high levels of youth exposure from noncompliant ads, we divided the number of radio markets in which a brand generated at least a quarter of youth exposure from noncompliant ads by the total number of markets in which the brand advertised.

Youth overexposure to alcohol advertising was calculated using gross rating points (GRPs). GRPs are the advertising industry’s standard per capita measure of advertising exposure and are calculated on a market-, beverage-, and brand-specific basis by dividing the total number of advertising impressions for an age group by the total market population in that age group, as defined by Arbitron. Youth were determined to have been overexposed to alcohol advertising if the ratio of youth GRPs to adult GRPs exceeded 1.00, indicating that youth were more likely than adults to hear a specific ad or ads on a per capita basis.

Youth exposure to alcohol advertising under the industry’s current 30 percent standard was also compared with exposure using the 15 percent proportional standard. In the 11 PPM markets, exposure to alcohol advertising was assessed by gender and beverage type by calculating the ratio of GRPs for boys versus girls in listeners ages 12-20 years.

A more complete description of the sources and methodology used for this report is provided in Appendix A.

RESULTS

CAMY identified 798,847 alcohol product advertisements that aired on radio stations in the 11 markets measured using PPMs and the 64 markets measured using diaries throughout 2009.

Compliance with the 30% Industry Standard

Approximately 9 percent of all alcohol product advertisements—close to one out of 11—aired on programming with audiences at or above the industry’s current voluntary 30 percent standard for underage audience composition (Table 1). These advertisements generated 18 percent of the exposure of youth ages 12 to 20 to alcohol advertising across all markets assessed using either the PPM or diary methods. The PPM market with the highest percentage of advertising placed in programs with greater than a 30 percent youth audience composition was Washington, DC (35%). In the diary markets the highest percentage of advertising placed in programs with greater than a 30 percent youth audience composition was Chattanooga, TN (59%). (Data not shown, but available at http://www.camy.org/action/gauge_exposure.html.)

Table 1: Advertisements and Youth Impressions Not in Compliance with Industry 30% Placement Standards, by Market Type and Beverage Type, 2009

a. PPM Markets

Beverage Type	Advertisements			Age 12-20 Exposure (Impressions)		
	Total	Non-compliant*	Percent of Total	Total	Non-compliant*	Percent of Total
Alcopop	6,710	539	8.0%	10,039,100	1,879,700	18.7%
Beer and Ale	210,240	17,919	8.5%	439,432,300	75,645,400	17.2%
Distilled Spirits	28,020	4,007	14.3%	87,643,800	21,130,300	24.1%
Wine	10,295	716	7.0%	16,609,000	2,588,800	15.6%
TOTAL	255,265	23,181	9.1%	553,724,200	101,244,200	18.3%

b. Diary Markets

Beverage Type	Advertisements			Age 12-20 Exposure (Impressions)		
	Total	Non-compliant*	Percent of Total	Total	Non-compliant*	Percent of Total
Alcopop	12,074	804	6.7%	6,900,900	788,800	11.4%
Beer and Ale	501,403	46,643	9.3%	247,043,700	44,856,000	18.2%
Distilled Spirits	13,787	778	5.6%	9,650,700	1,159,400	12.0%
Wine	16,318	2,045	12.5%	5,108,900	1,859,000	36.4%
TOTAL	543,582	50,270	9.2%	268,704,200	46,663,200	18.1%

*Noncompliant ads exceed 30% underage audience. For PPM markets underage audiences are measured as ages 6-20/6+. For diary markets underage audiences are measured as ages 12-20/12+.

Source: Mediaguide, Inc. and Arbitron, Inc. 2009

Brand Noncompliance

Four brands (Bud Light, Coors Light, Miller Lite, and Baileys Irish Cream Coffee Liqueur) were responsible for more than half of all noncompliant ads in PPM markets (Table 2). In diary markets, three of these same brands (Miller Lite, Bud Light, and Coors Light) were responsible for more than half of all noncompliant ads.

Table 2: Radio Alcohol Advertisements and Advertising Exposure for Alcohol Brands with the Greatest Youth Exposure above the 30% Industry Placement Standard, by Market Type, 2009

a. PPM Markets

Brand	Beverage Type	Advertisements			Age 12-20 Exposure (Impressions) ¹			Percent of All Noncompliant Ads	Cumulative Percent
		Total	Non-compliant*	Percent of Total	Total	Non-compliant*	Percent of Total		
Bud Light	Beer and Ale	54,327	5,161	9.5%	119,162,000	22,776,100	19.1%	22.5%	22.5%
Coors Light	Beer and Ale	37,800	3,673	9.7%	85,498,800	17,997,300	21.0%	17.8%	40.3%
Miller Lite	Beer and Ale	30,443	2,546	8.4%	56,150,500	9,728,800	17.3%	9.6%	49.9%
Baileys Irish Cream Coffee Liqueur	Distilled Spirits	10,218	1,814	17.8%	36,000,700	8,707,100	24.2%	8.6%	58.5%
Subtotal 4 brands		132,788	13,194	9.9%	296,812,000	59,209,300	19.9%		
Total all 77 brands		255,265	23,181	9.1%	553,724,200	101,244,200	18.3%		
Percent of Total					53.6%	58.5%			

b. Diary Markets

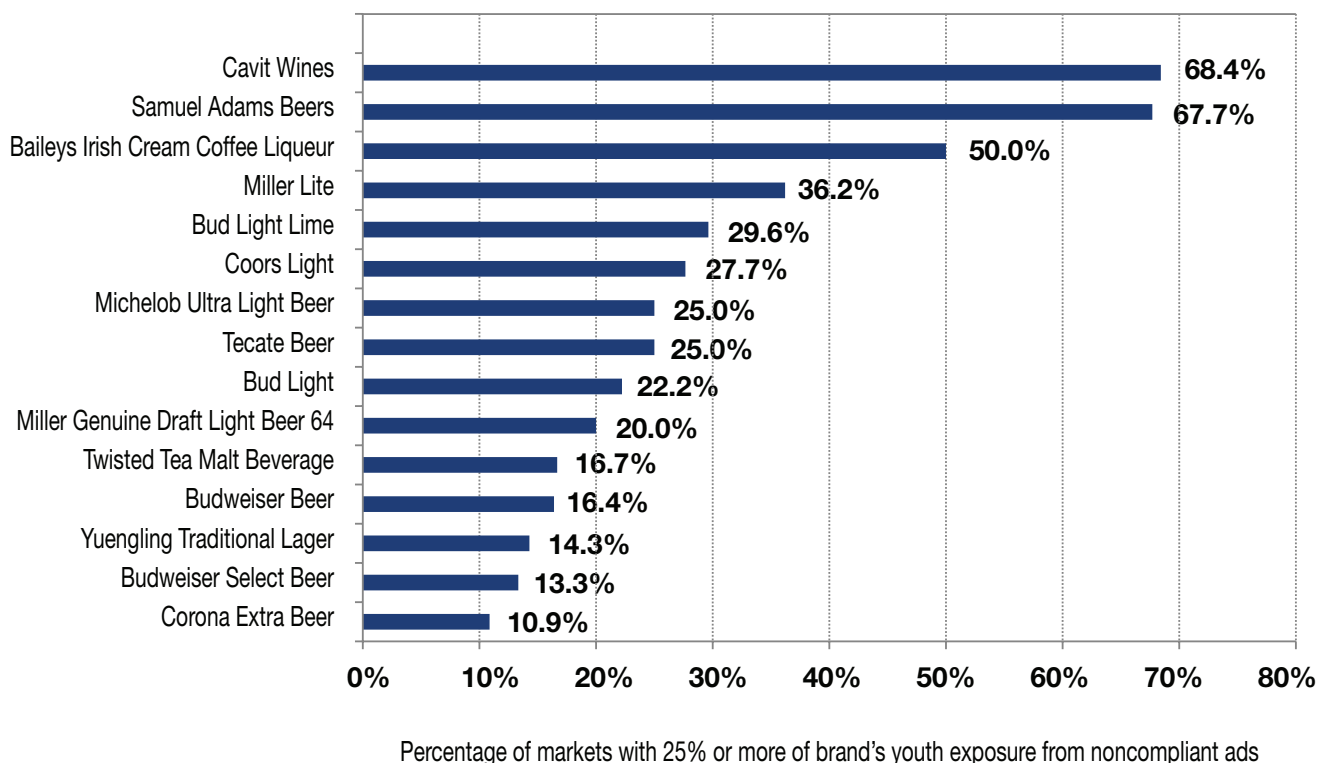
Brand	Beverage Type	Advertisements			Age 12-20 Exposure (Impressions) ¹			Percent of All Noncompliant Ads	Cumulative Percent
		Total	Non-compliant*	Percent of Total	Total	Non-compliant*	Percent of Total		
Cumulative Percent									
Miller Lite	Beer and Ale	81,456	9,386	11.5%	42,581,200	9,875,700	23.2%	20.3%	20.3%
Bud Light	Beer and Ale	110,189	8,398	7.6%	52,103,800	7,167,200	13.8%	14.7%	35.0%
Coors Light	Beer and Ale	85,235	7,781	9.1%	45,968,700	8,571,500	18.6%	17.6%	52.6%
Subtotal 3 brands		276,880	25,565	9.2%	140,653,700	25,614,400	18.2%		
Total all 71 brands		543,582	50,270	9.2%	268,704,200	48,663,200	18.1%		
Percent of Total					52.3%	52.6%			

¹Noncompliant ads exceed 30% underage audience. For PPM markets underage audiences are measured as ages 6-20/6+. For diary markets underage audiences are measured as ages 12-20/12+.

Source: Mediaguide, Inc. and Arbitron, Inc. 2009

Figure 1 identifies brands that generated a high percentage of youth exposure from noncompliant ads in multiple radio markets, across both PPM and diary markets. It includes both the large brands highlighted in Table 2, as well as the brands Cavit Wines, Samuel Adams Beers, Bud Light Lime, Michelob Ultra Light Beer, Tecate Beer, Miller Genuine Draft Light Beer 64, Twisted Tea Malt Beverage, Budweiser Beer, Yuengling Traditional Lager, Budweiser Select Beer, and Corona Extra Beer.

Figure 1: Brands with High Levels of Youth Exposure from Noncompliant Ads in Multiple Radio Markets



Source: Mediaguide, Inc. and Arbitron, Inc. 2009

Youth Overexposure to Alcohol Advertising on Radio

Close to one-third (32%) of advertising placements and more than half of youth exposure occurred when there were proportionately more young people listening than adults age 21 and above in both PPM and diary markets (Table 3). When assessed by beverage type, distilled spirits advertisements were more likely than advertisements for other beverage types in PPM markets to be placed on programs with disproportionately large youth audiences. In contrast, in diary markets, beer and alcopop advertisements were most likely to air on programming with disproportionately large youth audiences.

Table 3: Number of Ads and Youth Exposure to Alcohol Advertising from Ads Overexposing Youth Relative to Adults, by Market Type and Beverage Type, 2009

a. PPM Markets

Beverage Type	Advertisements			Age 12-20 Exposure (Impressions)		
	Total	Overexposing*	Percent of Total	Total	Overexposing*	Percent of Total
Alcopop	6,710	1,725	25.7%	10,039,100	4,445,000	44.3%
Beer and Ale	210,240	65,392	31.1%	439,432,300	244,908,100	55.7%
Distilled Spirits	28,020	12,086	43.1%	87,643,800	55,010,600	62.8%
Wine	10,295	2,399	23.3%	16,609,000	6,851,600	41.3%
TOTAL	255,265	81,602	32.0%	553,724,200	311,215,300	56.2%

b. Diary Markets

Beverage Type	Advertisements			Age 12-20 Exposure (Impressions)		
	Total	Overexposing*	Percent of Total	Total	Overexposing*	Percent of Total
Alcopop	12,074	3,812	31.6%	6,900,900	3,576,300	51.8%
Beer and Ale	501,403	159,559	31.8%	247,043,700	136,278,600	55.2%
Distilled Spirits	13,787	3,313	24.0%	9,650,700	4,760,800	49.3%
Wine	16,318	4,426	27.1%	5,108,900	3,179,600	62.2%
TOTAL	543,582	171,110	31.5%	268,704,200	147,795,300	55.0%

*An ad overexposes if age 12-20 GRPs exceed age 21+ GRPs, indicating youth heard more advertising per capita than adults.
Source: Mediaguide, Inc. and Arbitron, Inc. 2009

If a 15 percent standard for the 12- to 20-year-old listening audience had been in place in 2009, 31 percent of advertisements in the PPM markets and 33 percent of advertisements in the diary markets would have violated this standard (Table 4). These advertisements generated 55 and 57 percent of youth exposure to alcohol advertising in the two sets of markets, respectively.

Table 4: Number of Ads and Youth Exposure to Alcohol Advertising from Ads Exceeding 15% Ages 12-20 Composition as a Percentage of Ages 12 and Older, 2009

a. PPM Markets

Beverage Type	Advertisements			Age 12-20 Exposure (Impressions)		
	Total	>15% 12-20/12+*	Percent of Total	Total	>15% 12-20/12+*	Percent of Total
Alcopop	6,710	1,772	26.4%	10,039,100	4,685,700	46.7%
Beer and Ale	210,240	63,723	30.3%	439,432,300	241,447,500	54.9%
Distilled Spirits	28,020	11,536	41.2%	87,643,800	52,677,400	60.1%
Wine	10,295	2,015	19.6%	16,609,000	6,211,200	37.4%
TOTAL	255,265	79,046	31.0%	553,724,200	305,021,800	55.1%

b. Diary Markets

Beverage Type	Advertisements			Age 12-20 Exposure (Impressions)		
	Total	>15% 12-20/12+*	Percent of Total	Total	>15% 12-20/12+*	Percent of Total
Alcopop	12,074	3,881	32.1%	6,900,900	3,657,000	53.0%
Beer and Ale	501,403	169,849	33.9%	247,043,700	142,380,100	57.6%
Distilled Spirits	13,787	3,475	25.2%	9,650,700	4,970,700	51.5%
Wine	16,318	4,541	27.8%	5,108,900	3,209,900	62.8%
TOTAL	543,582	181,746	33.4%	268,704,200	154,217,700	57.4%

*Audience for ad exceeds 15% composition age 12-20 as a percent of age 12+.

Source: Mediaguide, Inc. and Arbitron, Inc. 2009

Within the underage group, girls ages 12-20 were more likely than boys ages 12-20 to be exposed to alcohol advertising for alcopops, distilled spirits, and wine in the majority of PPM markets in 2009. Only in the beer category were boys more likely than girls to be exposed to advertising in the majority of markets (Table 5).

Table 5: Relative Exposure to Alcohol Advertising by Gender for Youth Ages 12-20 and Adults Ages 21+ in PPM-Measured Markets, 2009

Beverage Type	GRP Ratios Girls / Boys (Ages 12-20)											# Markets Girls > Boys
	Atlanta	Boston	Chicago	Dallas Ft. Worth	Detroit	Houston Galveston	Los Angeles	New York	Philadelphia	San Francisco	Washington, DC	
Alcopop	NA	NA	NA	1.27	NA	1.12	NA	NA	0.92	NA	NA	2 of 3
Beer and Ale	0.97	0.71	0.99	0.78	0.66	0.84	0.92	1.34	0.87	0.83	1.14	2 of 11
Distilled Spirits	1.09	1.18	1.10	1.34	1.48	0.97	1.12	1.74	0.51	1.83	0.81	8 of 11
Wine	1.32	0.74	1.02	0.85	1.09	1.81	NA	1.39	0.85	2.04	0.87	6 of 10

NA indicates that there were less than 50 total GRPs for any age group in that market.

Source: Mediaguide, Inc. and Arbitron, Inc. 2009

DISCUSSION

This report found substantial violations of the alcohol industry’s voluntary 30 percent standard, as well as substantial youth overexposure to alcohol advertising on radio in 2009. In both the PPM and the diary markets, 9 percent of advertising placements and 18 percent of youth exposure occurred on programming with underage audiences greater than 30 percent. Nearly 32 percent of advertising placements and more than half of youth exposure occurred when youth ages 12 to 20 were more likely than adults age 21 and above to be listening to the radio. The three brands with the most radio advertising—Bud Light, Miller Lite, and Coors Light—also accounted for close to half of all noncompliant ads as well as youth overexposure (data not shown). For alcopops, distilled spirits, and wine, there appears to be a gender disparity, with girls more likely than boys to be exposed to advertising for these products in the majority of markets measured by PPMs.

Because alcohol is a legal product that can be marketed to persons age 21 and above, a critical issue for policymakers is where to set a threshold that protects a vulnerable population (i.e., underage youth) but allows the industry an appropriate avenue for its advertising to adults of legal age. The alcohol industry has argued that a 30 percent threshold is justified because 30 percent of the general U.S. population is under the age of 21. However, public health and law enforcement groups such as the National Research Council and Institute of Medicine and 24 state attorneys general have advocated a 15 percent threshold for placing alcohol ads, since nationally the age 12-20 population is approximately 15 percent of the total population.^{9,11}

Not surprisingly, the exposure of underage people to alcohol advertising is concentrated in the 12-20 age segment. Young people below that age receive less than a third of exposure to this advertising (data not shown). This exposes a significant limitation in the industry’s voluntary 30 percent proportional standard: By setting the proportion to include people below age 12, the industry can consistently overexpose 12- to 20-year-olds and still remain in compliance with its standard.

In 2007, Beam Global Spirits & Wine Inc. adopted a 25 percent threshold for underage audiences of its advertising and pledged to achieve a 15 percent average annual level of underage exposure based on aggregating total advertising for each brand and in each media venue in which that brand advertised. In late 2010, the head of the Federal Trade Commission’s Bureau of Consumer Protection called for alcohol companies to move to a 25 percent standard. So far, no other company has joined Beam at that standard.

The issue of alcohol radio advertising should be viewed in the context of other advertising platforms. Youth are exposed to alcohol advertising via a multitude of media, including television, magazines, the Internet, and social media such as Facebook and Twitter. Individual companies and brands have reported that they are increasingly moving their spending to digital media, including social media and other emerging platforms such as smartphone applications.¹² Despite these changes, radio continues to be an integral element of the advertising landscape. For example, in the 2010 Arbitron/Edison Research survey cited earlier, 42 percent and 37 percent of respondents of all ages reported Internet and television, respectively, as the medium “most essential to their life.” Although only 14 percent reported radio as “most essential,” that figure was still almost three times greater than the 5 percent of respondents who gave that designation to newspapers.¹³ Moreover, the number of alcohol advertisements on radio increased substantially between 2006 and 2009 (data not shown), at least in part because of their relatively low unit cost. As CAMY has shown elsewhere, youth exposure to alcohol advertising in magazines fell by 48 percent, from 15,323 in 2001 to 7,908 GRPs in 2008.¹⁴ In contrast, youth exposure to alcohol advertising on television rose 71 percent, from 19,502 youth GRPs in 2001 to 33,305 in 2009.¹⁵ Much of this increase occurred on cable television, which tends to be more narrowly targeted by age than broadcast television. Although alcohol advertising on the radio generated less youth exposure than it did in magazines or on television, it remains substantial: There were 5,460 youth GRPs across the 11 markets measured with PPMs in 2009, and 3,632 youth GRPs in the 64 markets measured with diaries. Given that all three media are subject to the alcohol industry’s voluntary 30 percent standard, which was adopted in response to concerns from the Federal Trade Commission about undue exposure of young people to alcohol advertising,¹⁶ it is clear that this standard is not preventing substantial youth exposure from occurring.

This report is subject to several limitations. It is intended to measure alcohol advertising exposure using data that are generally available to alcohol advertisers. It is not currently practical to include all audio media in this analysis, though future public health surveillance may attempt to do so. While listening habits are changing with the spread of satellite radio, personal listening devices such as the iPod and the emergence of Internet radio, particularly among younger listeners, local broadcast radio has been a primary medium for alcohol advertising.¹⁷ Reliable advertising expenditure estimates for satellite and digital radio are not generally available. Trending was not possible for this report for two reasons: First, reliable sources for advertising occurrences were not available prior to 2006, and second, markets have been in transition from diaries to the newer PPM methodology during this time, and data are not comparable between the two measures. In addition, some markets reported only partial-year results for 2009 (because they started using PPMs in the middle of the year). Results from those markets were not included in this analysis because they may reflect seasonal variations and may not be representative of what was happening during the entire year. However, given improvements in the availability of reliable data on advertising occurrences on radio and the rapid increase in the number of radio markets that are using the PPM methodology to assess audience composition, it will soon be possible to reliably assess trends in youth exposure to alcohol marketing as well as the impact of changes in the placement of alcohol advertising on youth exposure to it on a market-, beverage-, and brand-specific basis.

^{††} For 2009, Nielsen Monitor-Plus reported total radio advertising expenditures for alcoholic beverages of \$60.0 million, of which \$5.6 million, or 9.3 percent, was spent on national radio networks and \$54.4 million, or 90.7 percent, was spent on local stations. The local radio advertising estimate is likely underreported because it is based on data from only 39 markets; there are approximately 300 total radio markets in the United States, according to Arbitron.

CONCLUSION

How well the industry abides by its marketing codes and how well those codes offer true public health protection for the underage audience are critical issues. As this report shows, the alcohol industry, and especially certain brands, has room for improvement in complying with its own codes. Furthermore, the findings of this report question the adequacy of a 30 percent standard for ad placement in reducing the overexposure of underage youth, particularly those ages 12 to 20 years, to alcohol advertising on radio. The industry's current standard clearly allows for significant overexposure of the underage population who listen to radio. In addition, some beverage types seem to be reaching girls disproportionately compared to boys.

Other measures, such as maintaining and enforcing the age 21 minimum legal drinking age (MLDA) and increasing alcohol prices and taxes, show promise in reducing underage drinking.^{18,19} Legal research forthcoming from CAMY has determined that at least 20 states have established explicit jurisdiction over electronic broadcasting that originates in their state. Because so much of radio advertising is placed locally, these states could use this power to bring about a stricter standard for alcohol advertising placements originating in their states. Local communities have also acted to reduce youth exposure by limiting outdoor advertising, restricting alcohol industry sponsorships of community events, and monitoring and reducing alcohol signage on the exterior of retail outlets. Further information on these and other strategies can be found on the CAMY website at www.camy.org/action.

Although these options exist for state and local action to reduce youth exposure, in the context of what is primarily a self-regulatory system, alcohol companies bear primary responsibility for reducing youth exposure to alcohol advertising. Given the evidence that exposure to alcohol advertising and marketing increases the risk of underage drinking, the findings in this report suggest that alcohol producers and marketers need to adopt stricter standards in order to reduce this risk.

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Stu Gray, former senior vice president, director of Media Resources, BBDO New York; former member of the board of directors, Advertising Research Foundation.

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APPENDIX A: Methodology

A. Sources

Audience data: Arbitron

Arbitron Ratings provides audience estimates on almost every radio station in approximately 300 radio markets across the U.S. Arbitron reports both “average quarter-hour” and “cumulative” ratings. Cumulative ratings, which represent the net number of listeners tuning in to a particular station, may be calculated for a standard period of time, such as a daypart or week, or for a custom period of time such as one hour. For this analysis, VMR used average quarter-hour ratings for standard dayparts in order to best provide the audience ratings associated with specific advertising occurrences.

Starting in 2007, Arbitron began to deploy Portable People Meters, or PPM™ devices, to more accurately track listening. PPM technology uses inaudible codes embedded in radio signals that precisely identify the station, date, and time of listening along with demographic information about the survey participant. And in contrast to audience surveys using paper diaries, which were distributed twice or four times per year for 12-week periods and require the participant to recall and record listening in 15-minute increments, PPMs provide continuous monitoring of a user’s listening behavior. As a result, PPMs are rapidly replacing paper diaries as the preferred method for collecting information on audience composition. In fact, Arbitron increased the number of markets where they’re using the PPM methodology to survey listeners from 29 in December 2009 to 40 in December 2010; Figure A1 shows the rollout of PPM markets during the period covered by this report.

Figure A1: PPM rollout, 2007-2009

Rollout of Portable People Meter (PPM) Technology by Survey Period By Market

Market	2007			2008												2009														
	NOV	DEC	HOL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	HOL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	HOL	
Atlanta																														
Baltimore																														
Boston																														
Chicago																														
Cincinnati																														
Cleveland																														
Dallas-Ft. Worth																														
Denver-Boulder																														
Detroit																														
Houston-Galveston																														
Kansas City																														
Las Vegas																														
Los Angeles																														
Miami-Ft. Lauderdale-Hollywood																														
Minneapolis-St. Paul																														
New York																														
Philadelphia																														
Phoenix																														
Pittsburgh, PA																														
Portland, OR																														
Sacramento																														
Salt Lake City-Ogden-Provo																														
San Antonio																														
San Diego																														
San Francisco																														
Seattle-Tacoma																														
St. Louis																														
Tampa-St. Petersburg-Clearwater																														
Washington, DC																														
Number of Markets	3	3	3	3	3	3	3	3	3	3	6	6	6	10	10	10	10	11	11	11	16	16	16	21	21	21	29	29	29	29

Source: Arbitron 2007-2009

The PPM survey technology produces audience measurement results that appear to differ systematically from diary surveys. While the differences are small, the PPM surveys appear to be “older,” in that the youth audience (ages 12-20) as a percentage of total audience (age 12+) is smaller in PPM surveys than in diary surveys. Table A1 shows a comparison of average age 12-20/12+ composition for diary and PPM markets from 2007 to 2009. Youth compositions range from 9.8 percent to 11.6 percent for all alcohol beverages in PPM markets compared to 12.1 percent to 12.3 percent in diary markets.

Table A1: Comparison of PPM and Diary Survey Audience Compositions by Youth and Adult Age Groups

Beverage Type	Year	PPM Survey Compositions			Diary Survey Compositions		
		Age 12-20 / 12+	Age 21-34/12+	Age 35+/12+	Age 12-20 / 12+	Age 21-34/12+	Age 35+/12+
Beer and Ale	2007	10.2%	25.6%	64.2%	12.0%	31.8%	56.2%
	2008	11.7%	28.0%	60.3%	12.3%	31.3%	56.4%
	2009	11.6%	30.2%	58.2%	12.5%	30.7%	56.9%
Distilled Spirits	2007	9.2%	24.5%	66.3%	13.6%	29.9%	56.4%
	2008	10.7%	25.3%	64.0%	13.3%	27.7%	59.0%
	2009	12.7%	26.8%	60.5%	10.4%	26.1%	63.5%
Alcopops	2007	NA	NA	NA	13.9%	30.3%	55.8%
	2008	14.5%	28.9%	56.7%	14.3%	29.4%	56.2%
	2009	11.0%	26.3%	62.7%	11.8%	30.2%	58.0%
Wine	2007	7.8%	18.0%	74.2%	9.5%	20.7%	69.8%
	2008	9.3%	20.5%	70.2%	9.3%	19.7%	71.0%
	2009	8.1%	16.7%	75.1%	8.7%	18.4%	72.9%
ALL	2007	9.8%	24.7%	65.5%	12.1%	31.1%	56.8%
	2008	11.4%	27.1%	61.6%	12.3%	30.2%	57.5%
	2009	11.6%	29.1%	59.2%	12.3%	30.1%	57.7%

* Note that trend information is not reliable since the number of PPM markets is increasing in each time period.
Source: Mediaguide 2006-2009, and Arbitron 2006-2009

Occurrence data: Mediaguide

Mediaguide provides radio advertising occurrence monitoring for 2,500 stations in 107 local U.S. radio markets for its monitoring service. Mediaguide uses a compact representation of audio content (“audio fingerprint”) to identify an unknown broadcast by matching it to a database with the fingerprints of registered works. Previously unidentified ads are identified using a technology that searches for predetermined criteria such as segment length of 28 to 62 seconds and repeating content. Mediaguide monitors activity 24 hours per day, seven days per week. It does not provide cost or expenditure data.

Mediaguide provided a database of approximately 4.5 million alcohol advertising occurrences including market, station, date, time, and brand, as well as approximately 3,000 audio files corresponding to all unique commercials.

Expenditure data: Nielsen Monitor-Plus

The Nielsen Company provides estimated expenditure data for local radio and other media through its Monitor-Plus service. Local radio ad spending is based on brand-level data currently collected in 39 local markets. This directional information is not provided at the occurrence level and is not matched to the occurrence data provided by Mediaguide.

Brand data: Impact Databank

Impact is a leading source of alcohol brand and category information. CAMY and VMR used Impact to identify and classify brands according to type (Beer and Ale, Distilled Spirits, Wine, Alcopops).

B. Process

1. Classification

Each individual radio commercial execution was listened to and classified by CAMY as either a product or nonproduct (this category includes “responsibility,” corporate, sponsorship, or event ads) ad, depending on the primary purpose of the advertising. “Responsibility” advertising was defined as advertising that had as its primary intent a message related to underage drinking or drunk driving. CAMY further standardized each occurrence according to brand.

2. Occurrence daypart coding

Using the Mediaguide database of alcohol radio advertising occurrence data for the years 2006 to 2009, CAMY coded each occurrence to its corresponding daypart:

- M-F 6 a.m. to 10 a.m. Weekday Morning Drive
- M-F 10 a.m. to 3 p.m. Weekday Midday
- M-F 3 p.m. to 7 p.m. Weekday Afternoon Drive
- M-F 7 p.m. to midnight Weekday Evening
- S/S 6 a.m. to midnight Weekend

The limited number of overnight radio alcohol advertising occurrences (less than 5% of all occurrences tracked by Mediaguide) were not coded for this report. Overnight radio programming historically experiences very low ratings.

3. Ratings append and audience calculation

For this analysis, CAMY licensed Arbitron ratings data beginning with the Winter 2006 survey and continuing through Fall 2009. Because this report is an “audit” of actual exposure, CAMY used the corresponding Arbitron survey periods to analyze what was purchased and the audience that was exposed.

In cases where a particular station was not reported (as in the case of a station call letter change, or the case of a market that is measured with fewer than four surveys per year), CAMY searched preceding surveys until a match was found. In certain cases, a match was not possible because the Mediaguide database licensed for this report did not provide information about station call letter changes.

For each daypart, market, and station, CAMY applied the average quarter-hour audience in projected listeners, as reported by Arbitron, for the corresponding survey period. The resulting master database provides the building blocks for CAMY's analysis by including brand, occurrence, and audience information for each placement.

Using Arbitron market- and survey-specific universe (i.e., population) estimates, CAMY also calculated:

- audience composition for youth ages 12-20 as a percentage of all listeners age 12+
- audience composition for young people ages 6-20 as a percentage of all listeners age 6+ in PPM markets only
- index of youth ages 12-20 audience composition relative to each market
- Gross rating points (GRPs) for:
 - Ages 6-20
 - Ages 12-20
 - Ages 21-34
 - Age 35+
 - Age 50+
 - Age 12+
 - Age 21+

Certain exposure measures were aggregated by brand and category both within markets and across multiple markets.

4. GRP calculations and GRP ratios

GRPs are the sum of ratings of a set of ad occurrences, including multiple exposures. GRPs are the most common measure of media weight. For example, 200 GRPs may represent the number of exposures resulting from reaching 50 percent of a given population an average of four times, or 80 percent of the same population an average of 2.5 times. GRPs are population- and market-specific, and must be calculated for each demographic audience and each market or group of markets.

CAMY calculated a GRP ratio to measure exposure of youth relative to adults. This ratio typically divides the youth 12-20 GRPs for an individual ad occurrence (or for an aggregate by brand, market, daypart, or product category) by the equivalent adult 21+ GRPs. Ratios greater than 1 indicate that youth were exposed at a greater rate than adults. A ratio of 2 indicates that youth were exposed at double the rate of adults. The GRP ratio (like all GRP calculations) is based on actual market compositions, for which the percentage of youth ages 12-20 (or other demographic groups) will vary by market and survey period.

APPENDIX B: Glossary of Advertising Terms

Rating

Audience as a percentage of a universe estimate.

Universe Estimate

Total persons or homes in a given population (e.g., television households in the United States or people ages 12 to 20 in the United States).

Impressions

An advertising **impression** occurs when one person sees or hears an advertisement.

If this ad is seen by five different people, that counts as five impressions.

If a particular advertising medium, such as a magazine or television program, has an audience of 100,000 people, an ad placed in that magazine or during that program generates a number of impressions equal to the audience size—in this case 100,000 impressions.

Gross Impressions

The sum of impressions for a given ad campaign, or for any other combination of ads, is called **gross impressions**—so called because they include multiple exposures for some or all of the people who are exposed to the advertising. If five people see the same ad five times, this counts as 25 gross impressions. In a national advertising campaign, it is common for an advertising schedule to generate 500 million or more gross impressions.

Gross Rating Points (GRPs)

GRPs are a standard measure of advertising exposure. GRPs measure advertising exposure for a particular population, relative to the size of that population, and may be calculated by dividing gross impressions within that population by the number of people in the population.

Audience Composition

Research companies collect demographic information about audiences for different media such as magazines, television programs, or radio stations. Demographics usually include age, gender, and race, among other factors. For the example of a medium with an audience of 100,000 people, research may report that 20,000 are ages 2 to 20, and 80,000 are ages 21 and above. In that case, the **composition** of the audience is calculated by looking at the percentage of the audience that meets different demographic criteria. In this example, the audience composition is 20 percent for ages 2 to 20 and 80 percent for ages 21 and above.

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