Measurement Issues in Underage Youth Exposure to Advertising on Television

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Introduction

According to the National Survey on Drug Use and Health, in 2006 there were 10.8 million persons aged 12 to 20 (28.2 percent of this age group) who reported drinking alcohol in the past month, and nearly 7.2 million (18.8 percent) who reported binge drinking (five or more drinks on the same occasion at least once in the past thirty days). Alcohol is the drug most commonly ingested by youth. The U.S. Surgeon General has estimated that underage drinking is responsible for 5,000 deaths annually of persons under 21. The social cost of underage drinking in the United States was $61.9 billion in 2001, the most recent year for which estimates are available.

Several longitudinal studies have recently found a significant relationship between underage youth exposure to alcohol advertising and underage drinking behavior. However, these studies are mixed in their findings of a relationship between exposure to alcohol advertising on television and drinking behavior. Stacy et al. found that exposure to programming likely to contain alcohol advertising on television predicted higher odds of drinking beer and liquor use as well as greater likelihood of drinking three or more drinks on a single occasion. Ellickson et al. found exposure to television programming likely to contain alcohol advertising not significant in multivariate analysis. A later analysis of data from a similar but slightly younger population, and using a similar exposure measure, found that exposure to television advertising was a significant factor. Snyder et al. included television in a larger mix of self-reported exposure to alcohol advertising in measured media (television, radio, print, outdoor), and found that for each additional advertisement youth reported seeing (over an average of 23 per month) youth drank 1% more.

The variation in results in these studies may be traced to different ways of measuring youth exposure to alcohol advertising on television. Ellickson et al. used student self-reports of frequency of watching professional football and basketball games, as well as four late-night talk or comedy shows, all weighted by the number of beer ads contained in these programs as measured by Nielsen Monitor-Plus. Collins et al. used student self-reports of frequency of watching selected sports programming on ESPN or ESPN2, as well as eight other programs that contained large numbers of beer ads. Stacy et al., because they were surveying students about their drinking behavior in the spring, used a watched TV sports index comprised of professional baseball, college and professional basketball, professional soccer and hockey, and ESPN SportsCenter. This was combined with a watched TV shows index comprising 20 popular programs, weighted with Nielsen data giving the frequency of alcohol advertising in each program. The discrepancies in both methods and results of these studies raise the question of what is the best way to assess youth exposure to alcohol advertising on television. If public health researchers are going to draw on the research tools of advertising research in reporting and assessing
the impact of advertising exposure on health behaviors, then there needs to be consensus on best methodological practices in using those tools.

The Center on Alcohol Marketing and Youth (CAMY) at Georgetown University has released several reports to date on youth exposure to alcohol advertising on television. In partnership with Virtual Media Resources, a firm with 25 years of experience conducting media research for a variety of private and public sector clients, CAMY has sought to develop best practice in monitoring and reporting youth exposure to alcohol advertising. The purpose of this paper is to describe the television methodology, and suggest best practices for future use of advertising research metrics and tools.

**Data Sources**

The number of viewers in a program audience and the demographic composition of those viewers are the predominant factors establishing advertising prices in this marketplace. There are widely accepted commercial sources for data on media audiences in the United States. While these sources are expensive, they are key elements of what companies rely on when they are making their advertising placement decisions. Although other providers (e.g. Mediamark Research, Inc.) provide demographic data on television audiences, and although there are ongoing controversies about Nielsen and its methods, Nielsen Media Research is the standard source for television audience data and is used to set the price for the more than $100 billion in advertisements placed on television in any given year.

Nielsen measures television audiences for both nationally broadcast programming and programming in local television markets or DMAs (Designated Market Areas). Nielsen measures national audiences using a sample of approximately 9,000 households, containing more than 18,000 people who have agreed to participate. Local market samples depend on market size and range from 400 to 800 households. Local audiences are measured using different methodologies:

- In ten markets, Nielsen uses "people meters" (set-top devices that allow viewers to register their presence by clicking a button) to measure audience size and composition.
- In 46 markets, Nielsen uses a combination of set meters (set-top boxes that record television tuning) to determine household ratings and written diaries to determine audience composition.
- In 154 markets, Nielsen deploys only written diaries to determine both audience size and composition, and does so only during the "sweeps" months, typically in February, May, July and November.
- In some of the larger television markets, additional local market measurements are made in January, March, and October.

Nielsen reports national audience data starting at age 2, in age groupings with breaks including ages 2-5, 6-11, 12-14, 15-17, 18-20, 21-24, then 5-year age groups from 25-64, and then 65+. Audience age breaks for local markets vary slightly from this list. In
metered television markets, Nielsen is able to report minute-by-minute television viewing behavior. This information was only made available to subscribers starting in November of 2005. Data in this disaggregated format is very cumbersome to analyze and standards have not yet evolved for reporting and applying this information. The industry standard for audience measurement, followed by most media companies and advertisers, aggregates average audiences for every program quarter-hour – that is, the average audience over a 15-minute time period. Furthermore, for some programs with relatively small audiences (particularly on cable networks), Nielsen reports only program-average audiences, that is, the average audience over the duration of the entire program.

Standard advertising industry practice is to assume that the audience viewing a particular advertisement is the same as the audience viewing the programming on which the advertisement was placed. There is wide recognition among advertisers that many viewers will avoid advertisements by switching channels, leaving the room or focusing attention on other things during advertisements, or using recording technology such as VCR’s or DVR’s to fast-forward past ads. At this time, however, there are no widely accepted methods for adjusting audience estimates to account for this viewing behavior. Thus the standard method for estimating the audience for a television ad is to use the audience for the program on which the ad was placed. In practice, the size of the audience for a commercial is assumed to be the same as the nearest quarter-hour average audience size reported.

To assess exposure to television advertising, audience data must be merged with advertising occurrence data. These data are available from two sources – TNS Media Intelligence (formerly Competitive Media Reporting or CMR) and Nielsen Media Research. TNS Media Intelligence reports advertising occurrences on national broadcast and cable networks as well as local or “spot” broadcast advertisements placed locally in 100 DMAs. Nielsen Media Research, through its “Monitor-Plus” product, provides reports of advertising occurrences on national broadcast and cable networks as well as spot advertisements placed locally in all 210 DMAs in the United States. Each ad occurrence may be reported with its corresponding quarter-hour audience as measured by Nielsen Media Research. Additional information reported with the ad occurrence includes the market in which the ad appeared, the network and program, date and time, and the brand(s) being advertised. Monitor-Plus is the preferred source because of its broader coverage of local markets. Advertising may also be placed only on local cable interconnects in individual markets (also known as “spot cable” advertising). At this writing, there is no service tracking ads placed on local cable interconnects.

Monitor-Plus measures advertising occurrences using electronic signatures for advertisements, as well as station logs and video monitoring. The television market, channel, program, date and time of the occurrence are recorded for each advertisement. Nielsen also classifies television programs into categories, for example sports, movies or situation comedies. A dollar value is assigned to the advertisement based on published advertising rates established by networks. The actual dollar amounts paid are proprietary and not published, so these “rate card” dollar amounts are widely used to approximate actual spending.
Nielsen has created its own categories for alcohol brands, including Beer, Beverages-Alcoholic (primarily flavored malt beverages), Bourbon Whiskey, Brandy-Cognac, Canadian Whiskey, Champagne-Sparkling Wine, Gin, Irish Whiskey, Liqueur, Liquor (which seems only to be used for Bacardi Liquor), Rum, Scotch Whiskey, Tequila, Vodka, Whiskey, Wine, Wine Cooler. To capture the full spectrum of alcohol advertising on television, data must be obtained for each of these categories.

Selecting the At-Risk Youth Population

There are very little data available on drinking below age 12. The earliest age at which the federal government regularly surveys drinking behavior is 12. According to the National Survey on Drug Use and Health (NSDUH), in 2005 only 2.5% of 12 year-olds drank alcohol in the past month, and only 1.3% reported binge drinking (i.e. five or more drinks within two hours). While television audience measurements start as young as age 2, the public health data indicate that the at-risk youth population for underage drinking is youth ages 12-20. Therefore, while it is possible to monitor exposure to alcohol advertising on television for all underage youth from ages 2-20, particular attention should be placed on the 12-20 portion of this population.

Alcohol industry trade associations, including the Distilled Spirits Council of the United States (DISCUS) and the Beer Institute, have established alcohol advertising placement standards that restrict advertisements to programs where the youth audience ages 2-20 is less than 30% of the total audience (or conversely, where the adult audience ages 21+ is greater than 70%). This standard, described as “proportional” in Congressional testimony by a leading industry spokesman, reflects the segment of the total television viewing audience from age 2-20 (27.4% in 2005). One alcohol company has publicly adopted a stronger standard, combining a 75% adult placement standard with a commitment to achieving an 85% adult (a nod to the 15% youth standard – see below) annual aggregate average of its placements by brand and by medium.

However, the age 12-20 portion of the viewing audience was only 13.2% in 2005. The 30% age 2-20 guideline permits substantial disproportionate exposure of the 12-20 group without violating the placement standard. Analysis of alcohol advertising placements on television in the first 10 months of 2004 determined that two-thirds (67%) of all alcohol advertising impressions for youth ages 2-20 were delivered to persons age 12-20. The National Research Council and Institute of Medicine have recommended that alcohol companies move towards a 15% standard based on the 12-20 population, and 20 state attorneys general requested that the Federal Trade Commission discuss with industry the possibility of moving to this standard. Thus reporting exposure of the 12-20 age group is relevant both to levels of public health risk and current public policy debates.

Definitions

Advertising research has its own lexicon of terms, which are easily misunderstood and misapplied by public health researchers unfamiliar with this field. Definitions of the key
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 referred to as “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. For a national advertising campaign, it is common for an advertising schedule to generate 500 million or more gross impressions.

Gross Rating Points. “Gross rating points” (GRPs) are a standard measure of per capita 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. GRPs are also the mathematical product of reach and frequency, which are defined below.

Nationalized GRPs
GRPs for spot advertisements that run in a local television market, such as New York or Los Angeles, relate only to the television viewing populations in those markets. To be comparable to GRPs for nationally televised ads, the GRP values must be re-calculated using the national television population. These “nationalized GRPs” are calculated by dividing the number of advertising impressions for a given demographic in a spot television market ad by the national population for that demographic.

For example, an ad broadcast in the New York market is viewed by 1,000,000 persons ages 21-34, generating 1,000,000 21-34 year-old impressions. To calculate GRPs for the local market, these impressions would be divided by the size of the population of 21-34 year-olds in the New York market. However, to generate “nationalized GRPs” comparable to GRPs generated by national advertising, these impressions must be divided by the national population of 21-34 year-olds. If, for example, there are 54 million 21-34 year-olds nationally, then the nationalized GRPs would be 1,000,000 / 54,000,000 * 100 = 1.85.

Reach and Frequency. Reach enables advertisers to know what percentage of a population is exposed to advertising. Frequency measures how many times each individual is exposed to a series of ads, on average. Reach, frequency and GRPs are standard measures of media planning.


**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. Using 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 age 21 and over. 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% ages 2 to 20 and 80% age 21+.

**Television Daypart**

A daypart is the time of day during which a television program is broadcast. The television industry has created standard dayparts, the most commonly mentioned of which is “Primetime,” which runs from approximately 8PM to 11PM. Television audiences can vary considerably by daypart for each network.

**Target Rating Points or Target Audience Rating Points.** “Target rating points (TARPs) are the gross rating points that are delivered to a particular target demographic. For example, an advertising campaign may generate 100 GRPs to adults age 21-34 and 200 GRPs to adults age 35-54. If the target audience for the advertising campaign is adults age 21-34, then the Target Rating Points are 100.

**Case Study: TARPs in Australia**

King et.al\(^{15}\) published a significant contribution to the debate over alcohol marketing and youth in Australia in 2005. However, they define a target audience rating point as “an indication of the proportion of a specific demographic group who are potentially exposed to a television advertisement.” This is incorrect. The proportion of a specific demographic group who are potentially exposed is the definition of “reach.”

King et.al. continue by describing TARPs as “…a measure of the proportion of the designated target demographic group who are watching a particular program, and how many times they are potentially exposed to an advertisement placed during that program.” The first part of this sentence repeats the inaccuracy highlighted above. The second part of the sentence “and how many times they are potentially exposed…” is a description of “frequency.” However, frequency does not measure how many times a person is exposed “to an advertisement placed during that program.” Frequency measures how many times a person is exposed to an advertisement, on average, over the course of an entire advertising campaign that may include placements on many programs.

King et.al. repeat their definition of a TARP in the next paragraph and then provide an example.

> A TARP is a percentage expression with one rating point representing potential exposure to one per cent of a particular demographic group. ... If for instance, ten per cent of 13-17 year olds, in a particular metropolitan television market, were watching a certain television program and an advertiser bought one spot in
that program during that quarter hour period, this would yield a weight of ten TARPs against 13-17 year olds. And if ten percent of 13-17 year olds were watching the program while the advertiser bought two spots in that quarter hour period, this would yield a weight of twice that amount, i.e. twenty TARPs.

The first sentence repeats the mistake of classifying TARPs as a percentage of population exposed. As the example clearly points out, TARPs are the product of reach and frequency, so the second example resulting in 20 TARPs does not indicate that 20% of the population was exposed. In fact, when advertising weight is expressed in GRPs or TARPs, an infinite number of combinations of reach and frequency can achieve the same advertising weight.

While it is true that gross rating points or target rating points are the product of reach and frequency, the example from King et.al. demonstrates the potential confusion that such a definition may cause. The simplest conceptual definition of GRPs (or TARPs) should be applied, which is per capita advertising exposure or the number of advertising exposures (impressions) divided by the (target) population.

**Census vs. Sampling Methods**

A number of studies have used sampling methods to estimate advertising exposure. A recent study from the Kaiser Family Foundation monitored television advertising using a sample of different days of the week from a seven-week period from May to July (primarily), with a smaller segment collected in September. These day samples were used to create a composite week and this week was then projected to the year. The Kaiser study did not make use of Nielsen Media Research’s Monitor-Plus occurrence data. Another recent study using sampling came from the Federal Trade Commission. In this study, the sampling methodology selected 4 weeks from 4 different “sweeps months” during the year and projected the findings to the full year. In both cases, the sampling method likely introduced error based on the variability of advertising from day to day and week to week throughout the year. CAMY does not use a sampling methodology, instead analyzing a total census of alcohol advertising as reported by Nielsen Media Research. Sampling errors can be substantial, as we will show below. Use of a complete census avoids any error introduced by projecting annual exposure numbers from a sample.

Both the Kaiser and FTC studies analyzed food advertising, but we will use alcohol advertising data to illustrate the impact of sampling versus a census approach.

The table below shows the mean, standard deviation, and coefficient of variance for key measurements of weekly alcohol advertising exposure for the years 2001-2006. The coefficient of variance is a measure of dispersion which is calculated as the standard deviation percentage of the mean. There is considerable variation in advertising exposure from week-to-week, with key metrics such as youth exposure to advertising varying from 20-63% of the mean value.
Table 1 - Weekly Variation in Youth Exposure to Alcohol Advertising by Quarter 2001-2006

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Average</th>
<th>StDev</th>
<th>Coeff of Var</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001Q1</td>
<td>313</td>
<td>97</td>
<td>31.0%</td>
</tr>
<tr>
<td>2001Q2</td>
<td>492</td>
<td>104</td>
<td>21.1%</td>
</tr>
<tr>
<td>2001Q3</td>
<td>369</td>
<td>161</td>
<td>43.5%</td>
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<tr>
<td>2001Q4</td>
<td>280</td>
<td>176</td>
<td>63.1%</td>
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<tr>
<td>2002Q1</td>
<td>349</td>
<td>191</td>
<td>54.7%</td>
</tr>
<tr>
<td>2002Q2</td>
<td>589</td>
<td>250</td>
<td>42.6%</td>
</tr>
<tr>
<td>2002Q3</td>
<td>503</td>
<td>103</td>
<td>20.6%</td>
</tr>
<tr>
<td>2002Q4</td>
<td>386</td>
<td>162</td>
<td>42.0%</td>
</tr>
<tr>
<td>2003Q1</td>
<td>391</td>
<td>152</td>
<td>39.0%</td>
</tr>
<tr>
<td>2003Q2</td>
<td>472</td>
<td>209</td>
<td>44.3%</td>
</tr>
<tr>
<td>2003Q3</td>
<td>401</td>
<td>105</td>
<td>26.2%</td>
</tr>
<tr>
<td>2003Q4</td>
<td>412</td>
<td>168</td>
<td>40.7%</td>
</tr>
<tr>
<td>2004Q1</td>
<td>486</td>
<td>135</td>
<td>27.7%</td>
</tr>
<tr>
<td>2004Q2</td>
<td>531</td>
<td>135</td>
<td>25.4%</td>
</tr>
<tr>
<td>2004Q3</td>
<td>490</td>
<td>179</td>
<td>36.6%</td>
</tr>
<tr>
<td>2004Q4</td>
<td>481</td>
<td>198</td>
<td>41.1%</td>
</tr>
<tr>
<td>2005Q1</td>
<td>437</td>
<td>174</td>
<td>39.9%</td>
</tr>
<tr>
<td>2005Q2</td>
<td>502</td>
<td>189</td>
<td>37.7%</td>
</tr>
<tr>
<td>2005Q3</td>
<td>487</td>
<td>129</td>
<td>26.5%</td>
</tr>
<tr>
<td>2005Q4</td>
<td>541</td>
<td>250</td>
<td>46.2%</td>
</tr>
<tr>
<td>2006Q1</td>
<td>374</td>
<td>121</td>
<td>32.3%</td>
</tr>
<tr>
<td>2006Q2</td>
<td>525</td>
<td>257</td>
<td>49.0%</td>
</tr>
<tr>
<td>2006Q3</td>
<td>487</td>
<td>181</td>
<td>37.3%</td>
</tr>
<tr>
<td>2006Q4</td>
<td>498</td>
<td>156</td>
<td>31.3%</td>
</tr>
</tbody>
</table>

To illustrate the impact of sampling, we used data on youth exposure to alcohol advertising to compare the value measured from the full year of data (census) with a 4-week sample multiplied to estimate the full year. The 4-week sample chosen was the same as that used in the Holt et. al. 2007 study. Youth ages 12-20 exposure to alcohol advertising in GRPs was summed from the weeks of November 2, 2003, February 8, 2004, May 2, 2004, and July 4, 2004 (sample 1 in table). This sum was then multiplied by 365/28 to estimate the annual youth exposure value. The estimated value was compared to the full year actual value representing the total reported exposure from September 2003 through August 2004 (the 2003-2004 television year). This experiment was repeated, using data from one-week later in each quarter – November 9, 2003, February 15, 2004, May 9, 2004, and July 11, 2004 (sample 2 in Table 2).
Table 2 - Estimating Youth Exposure to Alcohol Advertising - 4 Week Sample vs. Actual

<table>
<thead>
<tr>
<th>Sample</th>
<th>Weeks Sampled</th>
<th>Estimated</th>
<th>Actual</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Alcohol</td>
<td>All Alcohol</td>
<td>All Alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 1</td>
<td>Week of 11/2/03, 2/8/04, 5/2/04, 7/4/04</td>
<td>25,402</td>
<td>26,381</td>
<td>-3.7%</td>
</tr>
<tr>
<td>Sample 2</td>
<td>Week of 11/9/03, 2/15/04, 5/9/04, 7/11/04</td>
<td>27,200</td>
<td>26,381</td>
<td>3.1%</td>
</tr>
<tr>
<td>Category Analysis Beer</td>
<td>All Alcohol</td>
<td>All Alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 1</td>
<td>Week of 11/2/03, 2/8/04, 5/2/04, 7/4/04</td>
<td>19,312</td>
<td>20,844</td>
<td>-7.3%</td>
</tr>
<tr>
<td>Sample 2</td>
<td>Week of 11/9/03, 2/15/04, 5/9/04, 7/11/04</td>
<td>21,959</td>
<td>20,844</td>
<td>5.3%</td>
</tr>
<tr>
<td>Brand Analysis</td>
<td>Coors Light</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 1</td>
<td>Week of 11/2/03, 2/8/04, 5/2/04, 7/4/04</td>
<td>1,962</td>
<td>2,328</td>
<td>-15.7%</td>
</tr>
<tr>
<td>Sample 2</td>
<td>Week of 11/9/03, 2/15/04, 5/9/04, 7/11/04</td>
<td>2,256</td>
<td>2,328</td>
<td>-3.1%</td>
</tr>
</tbody>
</table>

In the first instance we have underestimated youth exposure by 4% and in the second case we would have overestimated youth exposure by 3%. These errors increase when examining exposure at the category or brand level.

Depending on which weeks are selected for the sample, there is a distribution of possible errors in the estimate using this sampling technique. To estimate the error distribution, we randomly selected 4 one-week periods, using one week per quarter, and calculated the estimated youth age 12-20 exposure to alcohol advertising. This was then compared to the actual value and the experiment was repeated 150 times. The error distributions are presented in the graph below.
As the graph shows, in 2004 there was a 45% probability of the sampling error being no larger than +/- 5% and a 75% probability of the sampling error being no larger than +/- 10%. However, the distribution is dependent upon the variation in weekly advertising, and since 2004, as shown in the first table in this section, the variation in weekly advertising has been growing steadily. Thus, the error distributions for 2005 and 2006 have gotten wider. In 2006, there was a 20% probability of the sampling error being no larger than +/- 5% and an 80% probability of the sampling error being no larger than +/- 20%.

When attempting to measure critical factors which may influence public health outcomes, the variation introduced by sampling severely detracts from the efficacy of the measurement. Given the availability of the complete data from a syndicated research data provider, there are no apparent benefits to be gained from using partial year sampling.

Classifying Advertisements

Not every advertisement placed by alcoholic beverage companies on television is for an alcoholic beverage product. Some companies place corporate and event advertising, in which the principal message is either something that promotes the company’s image and commitments (such as Anheuser-Busch’s commitment to a clean environment) or a sporting, musical or other special event sponsored by a company or a brand. Some alcoholic beverage companies place advertisements whose theme is related to responsible drinking behavior, including advising youth to wait until age 21 to drink and advising all to avoid drinking and driving. These ads are referred to as “responsibility ads.” Such ads are distinguishable from most alcohol product ads which may have a short “please drink responsibly” voiceover at the conclusion of the ad. When using the Nielsen -Plus data, if the purpose is to assess the degree of exposure to product advertising, then each advertisement must be viewed and classified so that it may be identified as and categorized appropriately in one of the four categories of alcohol advertising – product, “responsibility,” corporate or event.

Performing Basic Calculations Using GRPs

As defined above, GRPs are per capita advertising exposure measures. The basic formula for calculating GRPs is as follows:

$$GRPs = \frac{\text{Impressions}_d}{\text{Population}_d} * 100$$

where $d$ represents a specific demographic group

As a per capita measurement, GRPs for different demographic groups can be compared with each other to estimate relative per capita advertising exposure. However, since the denominator of the GRP measurement (the population of the demographic) varies for different demographic groups, GRPs cannot be added across demographic groups.
Whenever looking at GRP values, it is important to understand the universe that was used to determine the population number making up the denominator of the equation. A GRP may be calculated on a national basis or it may be calculated for a local market. For example, if an advertiser is interested in understanding advertising exposure in the New York DMA for adults ages 21+, then the denominator of the GRP calculation will be the size of the population of adults ages 21+ in the New York DMA. This number is different from the size of the population of adults ages 21+ in the Los Angeles DMA, or in the Chicago DMA. Therefore, while a GRP may be used to compare relative per capita exposure for a demographic group in each of these markets, it is not correct to add New York GRPs to GRPs from other markets.

Whenever advertising exposure data is to be aggregated, researchers must take care to ensure that the underlying population is consistent. The best way to combine advertising exposure data is to aggregate impressions separately and then divide these impressions by the combined populations of the groups being aggregated.

Performing Basic GRP Calculations: A Case Study

Ringel et.al.18 analyzed trends in youth exposure to alcohol advertising on television, by extracting data for eight race-gender-age groups: black females aged 6 to 11, white females aged 6 to 11, black females aged 12 to 17, white females aged 12 to 17, black males aged 6 to 11, white males aged 6 to 11, black males aged 12 to 17, and white males aged 12 to 17. The authors wrote:

\[ \text{GRPs are calculated as the product of the percent of the audience reached and the average frequency of exposure. In these data, the audience base for the GRPs is race-specific. Therefore, we can easily aggregate GRPs across groups within race (e.g., obtain GRPs for all black males aged 6 to 17 by adding GRPs for black males in the two age groups).} \]

This is incorrect, as an example will illustrate. Let \( P_{6-11} \) equal the size of the population of black males ages 6 to 11 and \( P_{12-17} \) equal the size of the population of black males ages 12-17. Similarly, let \( I_{6-11} \) be the number of advertising impressions delivered to black males ages 6 to 11 and let \( I_{12-17} \) be the number of advertising impressions delivered to black males ages 12 to 17. Then

\[
\begin{align*}
\text{GRP}_{6-11} &= \frac{I_{6-11}}{P_{6-11}} \times 100 \\
\text{GRP}_{12-17} &= \frac{I_{12-17}}{P_{12-17}} \times 100
\end{align*}
\]

However, to calculate the advertising weight that has been delivered to black males ages 6 to 17, it is necessary to combine both the impressions in the numerator and the populations in the denominator to get the correct per capita measure.

\[
\text{GRP}_{6-17} = \frac{I_{6-17}}{P_{6-17}} \times 100 \\
\]

or
The only situation in which the sum of GRP_{6-11} and GRP_{12-17} are equal to GRP_{6-17} is when the underlying populations are equal (P_{6-11} = P_{12-17}). Such a situation would be circumstantial at best.

Ringel et al. (2006) also describe a process for aggregating GRPs across demographic groups:

To do this, we use census data on the population within each racial group to combine GRPs across races: males aged 6 to 11, females aged 6 to 11, males aged 12 to 17, and females aged 12 to 17. (Because GRPs are a per capita measure, we can use data on the number of people in the potential audience in each racial group to aggregate GRPs across racial groups. However, we do not have data on the actual audience [i.e., people in households with televisions], so we use census population data as a proxy. Using the census data is not perfect because it overestimates the potential audience to some extent. However, because 99% of households have at least one television, population data is a reasonable proxy.)

It is not entirely clear from this definition how the combined GRPs are being calculated. The correct way to calculate the advertising weight to all males ages 6 to 11, for example, would be to sum the impressions for white males ages 6 to 11 with the impressions for black males ages 6 to 11 and then divide this sum by the sum of the populations of the two groups:

\[
\text{GRPMale6-11} = \frac{(I_{\text{WhiteMale6-11}} + I_{\text{BlackMale6-11}})}{(P_{\text{WhiteMale6-11}} + P_{\text{BlackMale6-11}})} \times 100
\]

However, it is not necessary to use census data as a proxy, since Nielsen Media Research provides actual television household universe estimates to its licensed data subscribers for all of the demographic groups it reports.

Calculating Relative Advertising Exposure and Trends in Relative Exposure

Youth exposure to alcohol advertising may be measured relative to adult exposure by comparing GRPs for each group. The simplest way to make this measurement is to create a ratio of youth GRPs (ages 12-20) to adult GRPs (ages 21+).

Since GRPs are per capita advertising measures, they are properly normalized to allow a comparison between adult exposure and youth exposure. If the ratio of youth GRPs to adult GRPs is a number greater than 1, then it is an indication that youth are being exposed to more advertising per capita than adults. This is also referred to as youth “overexposure,” that is, an alcohol ad with a GRP ratio greater than 1 “overexposes” youth relative to adults on a per capita basis. GRP ratios can also quantify the magnitude of youth exposure relative to adults. If the GRP ratio is 1.20, then youth were exposed to 20% more advertising than adults on a per capita basis. GRPs are also the preferred...
measure for showing trends in advertising exposure, because as per capita measures they adjust for population changes over time.

Calculating Relative Exposure and Trends in Exposure: A Case Study

Ringel et.al (2006) use the differences in GRP values between demographic groups to estimate relative exposure. While it is true that if GRPs for one group are larger than GRPs for another group it may be concluded that one group received more exposure than another, the actual number that results from subtracting one GRP from another is difficult to interpret. Similarly, using subtraction as the basis for comparison may lead to misinterpretation of results due to scaling issues. The following table illustrates this problem.

Table 3: Scaling Issues in Estimating GRP Trends Over Time

<table>
<thead>
<tr>
<th>Year</th>
<th>Youth GRPs</th>
<th>Adult GRPs</th>
<th>GRP Difference</th>
<th>Relative Exposure (Ratio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40,000</td>
<td>39,500</td>
<td>(500)</td>
<td>1.01</td>
</tr>
<tr>
<td>2</td>
<td>30,000</td>
<td>29,500</td>
<td>(500)</td>
<td>1.02</td>
</tr>
<tr>
<td>3</td>
<td>20,000</td>
<td>19,500</td>
<td>(500)</td>
<td>1.03</td>
</tr>
</tbody>
</table>

If youth receive 40,000 GRPs of advertising exposure and adults receive 39,500 GRPs of advertising exposure, then the difference in GRPs is 500 and the relative exposure is 1% - that is, youth were exposed to 1% more advertising per capita than adults. But if, as shown in the table, in subsequent years the GRP difference stays the same at 500, then it is possible that the relative exposure is actually changing over time – in this case, increasing from 1% to 3% more per capita advertising exposure. To accurately report the relative advertising exposure of one group compared to another, it is necessary to use the ratio of GRP values. Thus Ringel et al.’s calculations are incorrect and could be misleading. It is best to trend relative exposure (i.e. the ratio of GRP values over time).

Alcohol industry spokespersons somethimes model trends in advertising exposure by using trends in advertising dollars as a proxy. Care should be taken when trending advertising dollars – ad prices have historically risen significantly from year to year, making it difficult to estimate trends in advertising exposure from trends in advertising spending. To examine trends in advertising exposure, it is best to use trends in GRPs or GRP ratios.

Audit vs. Planning Perspectives

The actual audience for a television program cannot be known with certainty in advance of the broadcast. Even for regularly scheduled programs, reported audiences can vary considerably from telecast to telecast. This variation may be attributed to both actual variations in audience as well as variation introduced by the sampling methods of the Nielsen survey. Programs with small audiences, in particular, may have greater variation in their reported audience due to sampling methods.
Advertising placement decisions must be made in advance, when the best indication of the expected audience for a television program is the historical audience for that program or for the network and daypart in which the program is run. Working from a “planning perspective,” which uses historical data to estimate prospectively the composition of audiences for programming where an advertising will be placed, media buyers will often use average program audiences over a period of time – for example, the average of all audiences for a given program for a quarter of the year. Television reports produced by the CAMY have thus far focused on actual reported audience (quarter hour average) at the time the advertisement was placed. This retrospective “audit perspective” provides an objective estimate of the reported audience at the time the advertisement was telecast. Because different media buyers may use different methods for averaging historical data, auditing past placements from a “planning perspective” would require making subjective judgments about what methods buyers use. The audit perspective avoids this issue and simply reports the instantaneous audience at the time the ad was telecast.

**Auditing Current Industry Standards**

Appendix A provides the advertising placement guidelines put forward by the trade associations for distilled spirits and beer marketers, DISCUS and the Beer Institute respectively. Members of both of these associations have agreed that they will restrict advertising placements to those programs with a legal purchase age (LPA) audience composition of 70% or higher. This translates into an underage audience composition of 30% or lower. These audience compositions are calculated by dividing the age 2-20 audience by the total age 2+ audience. If this percentage is less than 30%, then the placement is in line with the guidelines established in the respective advertising codes. As reported above, the National Research Council and Institute of Medicine have recommended that alcohol companies move toward a 15% standard based on the 12-20 population. This audience composition is calculated by dividing the age 12-20 audience by the total age 2+ audience. If this percentage is less than 15%, then the placement is in line with the guidelines recommended by the NRC and IOM.

Both of these composition calculations may be made using either an audit or a planning methodology. The audit composition calculation is simply the percentage calculation using the instantaneous audience measurement at the time the advertisement was televised. However, given the issues outlined above with audience variation from telecast to telecast, it may be desirable to average the audience composition over multiple telecasts. The DISCUS placement guidelines included in Appendix A state that in auditing past placements, “A past placement will be considered appropriate where data published or supplied for the quarter in which the placement ran show an LPA audience composition that was in compliance with the Code.” The correct way to calculate the weighted average audience composition for each placement standard is:

- **70/30 Standard**: \[
    \frac{\text{Sum(Age 2-20 Audience)}_T}{\text{Sum(Age 2+ Audience)}_T}
\]
- **85/15 Standard**: \[
    \frac{\text{Sum(Age 12-20 Audience)}_T}{\text{Sum(Age 2+ Audience)}_T}
\]

where \(T\) represents a time period over which the average is to be calculated.
The table below shows the difference between the audit and the planning composition measurements from 2001-2005 using the 70/30 placement standard. The impact of averaging is not uniform. For nationally broadcast network and cable programs which air frequently, the average values are calculated over many instances in a quarter and do tend to stabilize the composition values. However, for specials, or programs running only in local markets, the number of telecasts may be sufficiently small that the average composition values are relatively close to the instantaneous composition values.

Table 4: Occurrence Audit Versus Quarterly Average Audit of Alcohol Advertising Placements With in Excess of 30% Underage Audiences, 2001–2005

<table>
<thead>
<tr>
<th>Alcohol Category</th>
<th>Year</th>
<th>Total Ads</th>
<th>Audit</th>
<th>Percent</th>
<th>Quarterly Avg</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer and Ale</td>
<td>2001</td>
<td>179,371</td>
<td>22,187</td>
<td>12.4%</td>
<td>18,361</td>
<td>10.2%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2002</td>
<td>217,720</td>
<td>29,392</td>
<td>13.5%</td>
<td>24,759</td>
<td>11.4%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2003</td>
<td>235,686</td>
<td>31,677</td>
<td>13.4%</td>
<td>26,320</td>
<td>11.2%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2004</td>
<td>217,981</td>
<td>25,259</td>
<td>11.6%</td>
<td>21,188</td>
<td>9.7%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2005</td>
<td>221,862</td>
<td>17,453</td>
<td>7.9%</td>
<td>12,424</td>
<td>5.6%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2001</td>
<td>5,702</td>
<td>396</td>
<td>6.9%</td>
<td>310</td>
<td>5.4%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2002</td>
<td>10,534</td>
<td>700</td>
<td>6.6%</td>
<td>632</td>
<td>6.0%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2003</td>
<td>21,325</td>
<td>2,322</td>
<td>10.9%</td>
<td>1,670</td>
<td>7.8%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2004</td>
<td>36,183</td>
<td>4,781</td>
<td>13.2%</td>
<td>4,773</td>
<td>13.2%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2005</td>
<td>50,166</td>
<td>4,512</td>
<td>9.0%</td>
<td>4,363</td>
<td>8.7%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2001</td>
<td>18,264</td>
<td>1,973</td>
<td>10.8%</td>
<td>1,672</td>
<td>9.2%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2002</td>
<td>40,023</td>
<td>5,576</td>
<td>13.9%</td>
<td>4,291</td>
<td>10.7%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2003</td>
<td>20,179</td>
<td>2,391</td>
<td>11.8%</td>
<td>1,688</td>
<td>8.4%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2004</td>
<td>11,688</td>
<td>1,013</td>
<td>8.7%</td>
<td>731</td>
<td>6.3%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2005</td>
<td>20,831</td>
<td>2,303</td>
<td>11.1%</td>
<td>1,931</td>
<td>9.3%</td>
</tr>
<tr>
<td>Wine</td>
<td>2001</td>
<td>24,626</td>
<td>903</td>
<td>3.7%</td>
<td>731</td>
<td>3.0%</td>
</tr>
<tr>
<td>Wine</td>
<td>2002</td>
<td>34,476</td>
<td>1,413</td>
<td>4.1%</td>
<td>1,202</td>
<td>3.5%</td>
</tr>
<tr>
<td>Wine</td>
<td>2003</td>
<td>13,743</td>
<td>375</td>
<td>2.7%</td>
<td>263</td>
<td>1.9%</td>
</tr>
<tr>
<td>Wine</td>
<td>2004</td>
<td>22,831</td>
<td>1,438</td>
<td>6.3%</td>
<td>1,159</td>
<td>5.1%</td>
</tr>
<tr>
<td>Wine</td>
<td>2005</td>
<td>13,116</td>
<td>364</td>
<td>2.8%</td>
<td>327</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Source: Nielsen Media Research, 2001–2005

The table below repeats this analysis for advertisements that exceeded an 85/15 placement standard.

---

1 © 2001–2005 Nielsen Media Research, Inc. Ratings and other data contained herein are the copyrighted property of Nielsen Media Research, Inc. Unauthorized use of this copyrighted material is expressly prohibited. Violators may be subject to criminal and civil penalties under Federal Law (17 USC 101 et seq.). All Rights Reserved.
Table 5: Occurrence Audit Versus Quarterly Average Audit of Alcohol Advertising Placements With in Excess of 15% Youth Audiences, 2001–2005

<table>
<thead>
<tr>
<th>Alcohol Category</th>
<th>Year</th>
<th>Total Ads</th>
<th>Audit</th>
<th>Percent</th>
<th>Quarterly Avg</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer and Ale</td>
<td>2001</td>
<td>179,371</td>
<td>44,372</td>
<td>24.7%</td>
<td>41,977</td>
<td>23.4%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2002</td>
<td>217,720</td>
<td>55,984</td>
<td>25.7%</td>
<td>55,193</td>
<td>25.4%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2003</td>
<td>235,686</td>
<td>61,205</td>
<td>26.0%</td>
<td>60,061</td>
<td>25.5%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2004</td>
<td>217,981</td>
<td>48,013</td>
<td>22.0%</td>
<td>46,894</td>
<td>21.5%</td>
</tr>
<tr>
<td>Beer and Ale</td>
<td>2005</td>
<td>221,862</td>
<td>38,308</td>
<td>17.3%</td>
<td>34,754</td>
<td>15.7%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2001</td>
<td>5,702</td>
<td>1,275</td>
<td>22.4%</td>
<td>1,202</td>
<td>21.1%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2002</td>
<td>10,534</td>
<td>2,179</td>
<td>20.7%</td>
<td>1,782</td>
<td>16.9%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2003</td>
<td>21,325</td>
<td>6,102</td>
<td>28.6%</td>
<td>5,788</td>
<td>27.1%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2004</td>
<td>36,183</td>
<td>10,953</td>
<td>30.3%</td>
<td>10,046</td>
<td>27.8%</td>
</tr>
<tr>
<td>Distilled Spirits</td>
<td>2005</td>
<td>50,166</td>
<td>13,716</td>
<td>27.3%</td>
<td>13,425</td>
<td>26.8%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2001</td>
<td>18,264</td>
<td>4,439</td>
<td>24.3%</td>
<td>4,409</td>
<td>24.1%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2002</td>
<td>40,023</td>
<td>12,529</td>
<td>31.3%</td>
<td>11,602</td>
<td>29.0%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2003</td>
<td>20,179</td>
<td>6,104</td>
<td>30.2%</td>
<td>5,794</td>
<td>28.7%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2004</td>
<td>11,688</td>
<td>2,956</td>
<td>25.3%</td>
<td>2,764</td>
<td>23.6%</td>
</tr>
<tr>
<td>Low-Alcohol Refresher</td>
<td>2005</td>
<td>20,831</td>
<td>5,200</td>
<td>25.0%</td>
<td>5,015</td>
<td>24.1%</td>
</tr>
<tr>
<td>Wine</td>
<td>2001</td>
<td>24,626</td>
<td>1,953</td>
<td>7.9%</td>
<td>1,806</td>
<td>7.3%</td>
</tr>
<tr>
<td>Wine</td>
<td>2002</td>
<td>34,476</td>
<td>3,344</td>
<td>9.7%</td>
<td>3,013</td>
<td>8.7%</td>
</tr>
<tr>
<td>Wine</td>
<td>2003</td>
<td>13,743</td>
<td>1,187</td>
<td>8.6%</td>
<td>1,140</td>
<td>8.3%</td>
</tr>
<tr>
<td>Wine</td>
<td>2004</td>
<td>22,831</td>
<td>3,269</td>
<td>14.3%</td>
<td>2,935</td>
<td>12.9%</td>
</tr>
<tr>
<td>Wine</td>
<td>2005</td>
<td>13,116</td>
<td>747</td>
<td>5.7%</td>
<td>639</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

Source: Nielsen Media Research, 2001–2005

Assessing Exposure at Brand and Category Level

Advertisements are typically planned and bought for individual brands. The target audience for a brand such as Budweiser Beer is likely to be different from the target audience for another brand such as Bud Light. The complete list of advertisements purchased for a brand is referred to as its “advertising schedule.” Because brands vary widely in their advertising strategies, it is important to measure youth exposure to alcohol advertising at the brand rather than the parent company level. Summing the age 12-20 and 21+ nationalized GRPs for a brand’s entire advertising schedule provides total youth exposure and adult exposure, and permits comparison of relative exposure and overexposure through calculation of GRP ratios. In a similar manner, GRPs for all brands of beer or all distilled spirits brands may be aggregated to calculate an exposure measurement for the entire beer or distilled spirits category.

Conclusion

The databases and measures used by the advertising industry provide public health researchers with a new set of tools and metrics for assessing exposure of vulnerable populations such as youth to products whose consumption puts that population at risk, such as alcohol, tobacco or unhealthy foods. Use of these tools can contribute to public health knowledge about levels and trends in the risks faced by different populations, and
can contribute to public policy debates about whether and how risks can be reduced. However, these tools can also be misused and misinterpreted. The purpose of this paper has been to document best practices and provide cautionary examples in order to promote accurate use of these tools in improving public health knowledge and practice.
Appendix A: Industry Trade Association Placement Guidelines

1. Distilled Spirits Council of the United States (DISCUS)

   Demographic Data/Advertisement Placement Guidelines to Implement the Responsible Placement Provisions of the DISCUS Code of Responsible Practices for Beverage Alcohol Advertising and Marketing

Set forth below are guidelines regarding placement of advertisements in various media and periodic, random after-the-fact audits (post audits) of placements to meet the demographic standard where at least 70% of the audience for TV, print and radio advertisements is reasonably expected to be 21 years of age or older (the legal purchase age (LPA) audience composition).

I. Media placement and the 70% LPA standard

   A. A placement will be considered to be in compliance with this LPA standard if:

      i) The advertiser has a reasonable expectation, determined by using reliable, up-to-date audience composition data, that the LPA audience composition will be at least 70%;

      ii) The advertiser conducts internal, semi-annual after-the-fact audits of a random portion of past placements to verify that such placements were in compliance with the 70% LPA audience composition standard; and

      iii) The advertiser, upon learning of a non-compliant placement, takes appropriate, corrective action for future placements.

   B. A reasonable expectation for meeting this demographic standard takes into account marketplace realities, the medium and available demographic audience composition data, and includes:

      i) Recognition that a company’s media buys generally are determined prior to its upcoming fiscal year for placement during the course of that fiscal year;

      ii) Recognition that a company’s media buys rely upon historical demographic data to estimate the future LPA audience composition;

      iii) Recognition of the availability and publication intervals of syndicated audience composition data; for example, MRI TwelvePlus data are published annually and Arbitron data are published quarterly, whereas national broadcast networks have the most frequently measured syndicated audience composition data (national Nielsen data) thereby affording, among other things, more data for advertisement placement and for more expeditious after-the-fact audits, as compared to, for example, local (spot) TV and cable, as well as radio and print media.
II. Media placement and audience composition data

A. For TV--broadcast (network/local), cable (network/local) and syndication:

i) Purchase by program (or, if program specific data are unavailable, by
daypart/timeslot) using nationwide “2+” audience composition data,
such as national Nielsen data, based upon the last two quarters of
such data

ii) For new programs, data for similar programs or time periods

iii) A placement will be considered appropriate when the above-referenced
data show that the placement is in compliance with the Code

iv) Post audits: A past placement will be considered appropriate where data
published or supplied for the quarter in which the placement ran
show an LPA audience composition that was in compliance with the
Code

B. For radio:

i) Purchase by daypart (e.g., “a.m. drive,” “midday,” “afternoon drive,” etc.)
using “12+” audience composition data, such as Arbitron data, based
upon the last two quarters of such data

ii) If the station is not measured by a syndicated data source (e.g., a new
station or a station not measured by Arbitron), data provided by the
station regarding the target listenership audience or data for stations
with similar formats in similar markets

iii) More specific data than daypart can be used for audience composition
such as, for example, narrowing the a.m. drive hours from 6:00 a.m.-
10:00 a.m. to 8:00 a.m.-10:00 a.m. to determine audience
composition

iv) A placement will be considered appropriate when the above-referenced
data show that the placement is in compliance with the Code

v) Post audits: A past placement will be considered appropriate where data
published or supplied for the quarter in which the placement ran
show an LPA audience composition that was in compliance with the
Code

C. For print:

i) Purchase by publication using “12+” audience composition data,
such as MRI consolidated TwelvePlus data (designed to allow
analysis of “12+” youth and adult readership) or, if unavailable, MRI
“18+” data, based upon the last publication of such data
ii) If the publication is not measured by a syndicated data source (e.g., a new publication or a publication not measured by MRI), data provided by the publisher regarding target readership audience or data for similar publications (see section D below for general circulation unmeasured magazines)

iii) More specific data regarding audience composition also meet this standard, such as a “21+” subscriber special edition of the publication

iv) A placement will be considered appropriate when the above-referenced data show that the placement is in compliance with the Code

v) Post audits: A past placement will be considered appropriate where data published or supplied subsequent to the placement show an LPA audience composition that was in compliance with the Code

D. Independent measurement of unmeasured magazine demographic profiles (effective October 1, 2006):

i) Magazines intended for general circulation that are not measured by a syndicated data source, such as MRI or Simmons, and have or are intended to have a subscriber base should have an independent measurement of their subscribers, which meets the following criteria:

   ii) A demographic survey of subscribers should be conducted periodically for established magazines and for new magazines before consideration of an advertisement placement (and again for new magazines once the subscriber base has stabilized; for example, after initial subscribers have had an opportunity to renew would be appropriate in the latter instance)

   iii) Survey of magazine subscribers must be conducted by an independent third party research company using established research methods, such as the ABC Subscriber Study Audit requirements

   iv) Survey supplier and date survey was conducted must be identified

   v) Sample should be at least 300 in-tab (tabulated) respondents with the sample frame fully reported

   vi) Sample must be pulled on an nth name basis from all eligible names on the publication's full subscriber file for U.S. only. No complimentary copies, international, business addresses, demographic, or regional edition splits (unless these copies also are used for the advertising)

   vii) Subscribers, not other household members, should be asked to fill out and return the survey

   viii) Actual age, year of birth or check off for appropriate bracket of age are acceptable, as long as the age bracket identifies 21 as a starting point (for example, 21-34 versus 18-24)
ix) Upon the receipt of the independent demographic survey, a potential advertiser will evaluate the audit in conjunction with other factors prior to purchasing an advertising placement, such as the content of the magazine, similar or comparable publications, the “pass along” rate and/or circulation distribution of similar or comparable publications.

These Guidelines will be reviewed periodically to ensure that they reflect the most current and appropriate recognized electronic and print audience composition data. March 2006

2. Beer Institute

Buying Guidelines for the Implementation of Section 3(c) of the Beer Institute Advertising and Marketing Code

Brewers shall use the following guidelines when purchasing advertising in magazines or on television or radio.

Magazine Guidelines

A. For the purchase of print advertisements in magazines, use of a nationally recognized measurement service providing age 12-plus audience composition data to the extent available, or if not available, age 18-plus audience compositional data, or, if unmeasured, subscription data and/or other data from comparable publications.

B. For the purchase of print advertisements in new magazines, use of subscription data and/or other data from comparable publications;

C. A placement will be considered appropriate when data supplied by the sources referenced in (A) and (B) above shows that the publication is in compliance with the code.

D. Placement of print advertisements in editions of magazines that are published for subscribers 21 years of age or older will be deemed compliant with the Code.

Television Guidelines

A. For national network television advertising buys, use of national audience composition data on the program in the timeslot;

B. For syndicated, cable or local spot television buys, use of national audience composition data for the program or daypart being bought;
C. For new buys, use of national audience composition data for comparable programs in comparable timeslots;

D. A placement will be considered appropriate when data for two consecutive rating periods shows that the program or daypart is in compliance with the Code.

**Radio Buying Guidelines**

A. Audience composition restrictions apply to all paid and bonus spots including rotators, negotiated and agreed upon mentions, liners, tags, billboards, and any other type of announcement.

B. For audited radio stations, audience composition will be determined by the Average Quarter Hour (AQH) Persons measurement in Arbitron quarterly reports.

C. Time periods in which radio spots may be placed shall be in the following Arbitron standard dayparts or other time periods as specified below that satisfy the code provision that 70% of the audience composition is 21 years of age or older:

1. Arbitron standard dayparts:
   i. AM Drive Monday thru Friday 6:00 a.m. - 10:00 a.m.
   ii. Midday Monday thru Friday 10:00 a.m. - 3:00 p.m.
   iii. PM Drive Monday thru Friday 3:00 p.m. - 7:00 p.m.
   iv. Evening Monday thru Friday 7:00 p.m. - 12:00 midnight
   v. Monday through Friday 12:00 midnight – 6:00 a.m.
   vi. Sat. & Sun. 6:00 a.m. - 10:00 a.m.
   vii. Sat. & Sun. 10:00 a.m. – 3:00 p.m.
   viii. Sat. & Sun. 3:00 p.m. – 7:00 p.m.
   ix. Sat. & Sun. 7:00 p.m. – 12:00 midnight
   x. Sat. & Sun. 12:00 midnight—6:00 a.m.

2. Any period of time adjacent to an Arbitron standard daypart that is also purchased, provided that each additional hour independently satisfies the code provision that 70% of the audience composition is 21 years of age or older.

3. Any period of two or more consecutive hours, provided that each hour independently satisfies the code provision that 70% of the audience composition is 21 years of age or older.

D. Radio spots placed will be considered appropriate when data for each rating period covering the previous six months from the day the ad placement is made shows that the time period purchased satisfies the code provision that 70% of the audience composition is 21 years of age or older.

E. As new Arbitron reports become available during the term of an agreement to purchase future radio spots, brewers will review the new data to determine whether
spots purchased under the agreement continue to satisfy the Code provision that 70% of the audience composition is 21 years of age or older. If not, brewers will, as soon as practicable, make schedule adjustments, cancellations, or other appropriate changes to comply with the “70% standard” for the duration of the agreement.

F. For unaudited radio stations, radio spots placed will be considered appropriate if they meet these guidelines through use of audience compositional data from time periods for comparable stations in comparable markets.
REFERENCES


