Tobacco Advertising in Retail Outlets in California, 2000-2004

California Department of Health Services
Tobacco Control Section
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Abstract

Objective: To monitor trends in the extent and types of tobacco advertising in California retail outlets from 2002 to 2004 and make comparisons with data from an earlier study conducted in 2000.

Methods: In 2002, 2003, and 2004, the Tobacco Industry Monitoring Evaluation (TIME) Project conducted a survey of 619 randomly-selected tobacco retailers throughout California. Trained data coders visited stores to count the number and type of pro tobacco advertisements (ads), displays, shelving units, functional items, and age warning signs outside and inside the stores. Trends in point-of-sale tobacco advertising and compliance with federal and state regulations over the three-year period were assessed.

Results: The overall average number of tobacco ads and promotional items in stores increased from 2000 to 2004. Most of the increase occurred between 2000 and 2003. Signs were the most common form of tobacco ads in stores. The average number of tobacco signs and other advertising materials increased significantly from 2000 to 2004, especially in chain convenience stores without gas, chain convenience stores with gas, gas only stations, pharmacies, and supermarkets. The most prevalent brands with tobacco advertising in stores were Marlboro and Camel. Special prices were the most common tobacco promotion. The largest tobacco companies (Philip Morris, R.J. Reynolds, Lorillard, Brown and Williamson, and United States Smokeless Tobacco [USST]) increased their use of special price promotions from 2002 to 2003. Smaller tobacco companies followed with an increase in special price promotions from 2003 to 2004. The prevalence of tobacco signs over 14 square feet in size decreased from 2002 to 2004. However, in 2004 over three-fourths of California stores still had tobacco ads below a height of three feet, where they could be seen easily by children. Nearly all stores (95.6 percent) displayed some form of age-of-sale warning sign. However, more stores carried “We Card” signs, distributed by the tobacco industry, than the State mandated Stop Tobacco Access to Kids Enforcement (STAKE) Act signs. In 2004, one-quarter of the stores were not compliant with the STAKE Act signage requirements. Between 2002 and 2004, the prevalence of self-service tobacco displays nearly doubled; nearly one in ten stores had self-service tobacco displays in 2004. A significant proportion of this increase was due to smokeless tobacco self-service displays.

Conclusion: Stores that sell tobacco are a major channel used by the tobacco companies to advertise tobacco. Six years after the Master Settlement Agreement (MSA), many stores still had tobacco advertising materials that may be attractive to children, such as ads below three feet in height and ads near candy. Although nearly all stores appeared to be attempting to comply with laws requiring them to post age-of-sale warning signs, many stores’ signs still were not compliant with STAKE Act signage requirements. Additional efforts are needed to decrease youth exposure to in-store tobacco advertising and tobacco products.
Tobacco Advertising in Retail Outlets In California, 2000-04
Tobacco Advertising in Retail Outlets in California, 2000–04

PROJECT DESCRIPTION

BACKGROUND
The 1998 MSA between the four largest tobacco companies and the Attorneys General of 46 states in the United States (U.S.) substantially limited cigarette advertising on billboards, in print media, and at youth-oriented events (Daynard et al. 2001; Wilson 1999). The Smokeless Tobacco MSA between the Attorneys General and the USST Company imposed similar restrictions on smokeless tobacco advertising. However, these agreements did little to restrict tobacco advertising and promotions in retail outlets, such as convenience stores, liquor stores, gas stations, and supermarkets. As a result, stores are among the few remaining venues for tobacco advertising. Tobacco control advocates have predicted that as tobacco companies lose their other advertising channels, they may increase their advertising efforts in stores (Feighery et al. 2001). Monitoring efforts are needed to detect trends in tobacco advertising in retail outlets, so that appropriate counter-marketing strategies can be established and appropriate policies can be enacted.

The MSA mandates that tobacco ads in stores must be smaller than 14 square feet. The STAKE Act (California Business and Professions Code Sections 22950-22963) mandates that retailers who sell tobacco must post signs informing the customer that they will not sell tobacco to minors. It also prohibits self-service displays of cigarettes, though cigars and smokeless tobacco could still be sold through self-service displays in most stores until 2005. It is important for the State of California to monitor stores’ compliance with these existing limits on retail tobacco advertising because 88.3 percent of tobacco ad expenditures are occurring in the retail environment, and stores represent a powerful environment to “push” consumers to purchase certain products and to normalize tobacco use. The California Department of Health Services (CDHS) developed the Strategic Tobacco Retail Effort (STORE) Campaign, a unified statewide intervention, to focus on the store environment. The goal of the campaign is to reduce illegal tobacco sales and to reduce deceptive marketing practices using policy, monitoring, and community mobilization efforts (CDHS 2005).

Tobacco advertising in retail outlets can take a variety of forms. Advertising logos for tobacco products may be found inside or outside the store; on walls and windows; on functional items such as clocks, change trays, or wastebaskets; on temporary displays; on permanent shelving units that hold tobacco products; or in other locations. The tobacco cartons or packs themselves can even be used as advertising when they are displayed in such a way that the brand logo is visible to the consumer. Promotions can include payments to retailers to place products in prominent locations, as well as incentives aimed at the consumer, such as special prices, free gifts, and discounts for purchasing multiple packs.
Previous Research on Tobacco Advertising in Retail Outlets

Several previous studies examined the prevalence of tobacco advertising and promotions in retail outlets in California and other states.

Studies conducted before the MSA. Several studies documented the presence of tobacco advertising and promotions in retail outlets prior to the MSA. A study of stores in San Diego found an average of 6.3 tobacco ads per store, with larger numbers of ads in liquor stores and independent markets than in supermarkets and gas station/convenience stores (Woodruff et al. 1995). A study of convenience stores located near schools throughout the United States in 1996 found a mean of 6.2 interior ads and 4.6 exterior ads per store (Wakefield et al. 2002a).

Studies spanning the period before and after the MSA. In 1999, Wakefield et al. (2002b) conducted a follow-up study of stores in the same communities in which they had collected data in 1996. Their observations of stores spanned the months before and after the MSA went into effect on April 24, 1999. This study found a significant increase in interior and exterior ads in the months after the MSA went into effect. A study of Massachusetts stores in 1998 and 2000 found increases in the prevalence of exterior cigarette advertising on the buildings, windows, and doors of gas stations and gas station mini-marts, indicating that the amount of tobacco advertising in stores increased from the year before the MSA to the year after it (Celebucki and Diskin 2002). However, tobacco ads on windows of liquor stores decreased during this period. Overall, these studies support the prediction that tobacco companies would increase their advertising in stores after the MSA limited some of their other advertising channels (Feighery et al. 2001).

Studies conducted after the MSA. The Independent Evaluation of the California Tobacco Control Program (CTCP [2002]) found that the average number of tobacco ads and promotions in California stores was 17 in 1999 and 19 in 2000. These numbers are considerably larger than those reported before the MSA (e.g., Wakefield et al. 2002; Woodruff et al. 1995). In another study, convenience stores, gas stations, and supermarket/drug stores in 11 Illinois towns were monitored for storefront tobacco advertising in the years immediately following the MSA (Jason et al. 2004). Data were collected in 1999 (July-August, after the MSA was implemented), 2000, and 2001. This study found that the prevalence of brand-focused tobacco signs increased significantly from 1999 to 2000, and then remained unchanged from 2000 to 2001. However, the prevalence of price-focused tobacco signs decreased significantly from 2000 to 2001. This suggests that tobacco companies decreased their marketing emphasis on low prices after the MSA substantially increased cigarette prices, switching to an emphasis on brand recognition.
A study of San Francisco pharmacies found that 83.6 percent of the pharmacies that sold cigarettes displayed tobacco ads (Eule et al. 2004). The ads included tobacco displays (83.6 percent), tobacco ads in other areas of the pharmacy (5.9 percent), and tobacco ads that were visible from outside the pharmacy (3.9 percent).

Evidence also suggests that tobacco advertising in retail outlets is most common in low income and ethnic minority neighborhoods. A study of stores in San Diego neighborhoods found that point-of-sale tobacco advertising and promotions were more prevalent in ethnic minority neighborhoods than in white neighborhoods (Wildy et al. 1992). In a study of Massachusetts neighborhoods in 1998-99, there was a strong inverse relationship between per capita income and the proportion of stores with tobacco advertising ($r=-0.79$) (Laws et al. 2002).

These studies indicate that tobacco advertising in stores was present before the MSA, and it increased immediately following the MSA. However, no previous studies have examined whether the prevalence of tobacco advertising in stores continued to increase in subsequent years after the MSA.

**Retail Tobacco Advertising as a Public Health Priority**

According to the Federal Trade Commission (FTC) Report to Congress, in 2002 cigarette companies spent 2.1 percent of their $12.4 billion advertising and promotions budget on point-of-sale cigarette ads, 14.3 percent on promotional allowances (e.g., payments made to retailers, wholesalers, and others to promote cigarette sales), 63.2 percent on price discounts to wholesalers and retailers, and 8.7 percent on retail value added items such as "buy two packs, get one free." Together, these expenditures represent $11.02 billion, or 88.3 percent of the total expenditures for 2002, compared to $9.5 billion or 85 percent of the total in 2001, a 16 percent increase in the amount spent on advertising and promotions in the tobacco sales environment (U.S. FTC 2004). According to the most recent FTC report on smokeless tobacco advertising (U.S. FTC 2003), in 2001 the smokeless tobacco companies spent 7 percent of their $236 million advertising and promotions budgets on point-of-sale ads, 26 percent on promotional allowances, 13 percent on coupons, and 18 percent on retail value-added items. It is clear that tobacco companies are using stores as their dominant channel for encouraging tobacco use.
Monitoring of Retail Tobacco Advertising in California

The CTCP identified store advertising as an important priority in 1994 and brought national attention to this issue when the results of the Operation Storefront survey were released in 1995 (Roeseler et al. 2005). Tobacco point-of-purchase advertising and promotions were found next to candy and at the eye level of young children. In addition, more tobacco advertising covered the windows of stores within 1,000 feet of schools than stores farther away from schools.

In 2000, Feighery et al. (2001) conducted a statewide survey of 586 California stores to examine point-of-sale tobacco marketing. This study found a mean of 17.2 cigarette advertising and promotional materials per store, with 94 percent of stores featuring at least some advertising.

In 2002, the TIME Project at the University of Southern California (USC) returned to the same stores assessed in 2000 by Feighery and colleagues (adding a sample of randomly-selected stores to replace those that had gone out of business) in order to examine changes in point-of-sale tobacco advertising. The TIME Project repeated the survey in the same stores in 2003 and 2004, making it possible to determine trends in retail tobacco advertising over time, up to five years after the MSA. The present report presents the results of the 2002, 2003, and 2004 surveys, comparing them with the results of the 2000 survey whenever possible.
EVALUATION METHODS

STUDY DESIGN
A longitudinal, prospective cohort design was used to study a sample of 619 stores in California that sold tobacco. The sample included 541 of the 586 stores originally assessed in 2000 by Feighery et al. (2001), plus an additional 78 stores randomly selected from the original sampling frame to replace stores that had gone out of business. The stores were visited in 2002, 2003, and 2004 to assess changes in their tobacco advertising practices.

SAMPLE SELECTION AND PROCEDURES
In 1997, Stanford University generated a random sample of 700 California stores that sold cigarettes. The stores were randomly selected from a list of 40,186 California retailers that was generated for tax purposes by the California Board of Equalization (BOE) (Feighery et al. 2001). Of the 700 stores in the sample, 626 were still in business and selling cigarettes in 1999. Data collectors visited these 626 stores in 1999 and successfully coded the tobacco advertising in 586 of them (Feighery et al. 2001).

In 2002, 2003, and 2004, the TIME Project attempted to re-survey the same sample of stores. In 2002, 541 of the stores were still in business and selling cigarettes. An additional 78 stores were randomly selected from the initial sampling frame to replace the stores that had gone out of business, resulting in a sample of 619 stores, of which 569 were successfully surveyed in 2002.

In 2003 and 2004, the TIME Project returned to those 619 stores for follow-up assessments. If the stores were out of business or no longer selling tobacco, then new stores were randomly selected to replace them. Before visiting the stores, TIME staff telephoned them to confirm that they were still in business. This resulted in the removal of six stores from the sample in 2003 and an additional six stores in 2004, because the initial phone calls indicated that the stores were no longer tobacco retailers.

Table 1 shows the numbers of stores that were successfully surveyed in 2002, 2003, and 2004. Over the three years, the coders were unable to obtain data from seven to ten percent of the stores, because the stores had closed, stopped selling tobacco, or refused to allow the coder to complete the survey.
Table 1. Number of stores coded – 2002, 2003, and 2004

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total stores approached</td>
<td>619</td>
<td>-</td>
<td>613</td>
<td>-</td>
<td>607</td>
<td>-</td>
</tr>
<tr>
<td>Complete surveys</td>
<td>569</td>
<td>91.9</td>
<td>554</td>
<td>90.4</td>
<td>565</td>
<td>93.1</td>
</tr>
<tr>
<td>Partial survey completed</td>
<td>8</td>
<td>1.3</td>
<td>11</td>
<td>1.8</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Store refused - no data</td>
<td>11</td>
<td>1.8</td>
<td>29</td>
<td>4.7</td>
<td>22</td>
<td>3.6</td>
</tr>
<tr>
<td>No tobacco sold or tobacco-only store</td>
<td>20</td>
<td>3.2</td>
<td>10</td>
<td>1.6</td>
<td>7</td>
<td>1.2</td>
</tr>
<tr>
<td>Store not found, closed, or not visited</td>
<td>11</td>
<td>1.8</td>
<td>7</td>
<td>1.1</td>
<td>12</td>
<td>2.0</td>
</tr>
<tr>
<td>Invalid data</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>0.3</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004

Following the coding scheme established by Feighery et al. (2001), all stores in the sample were classified into one of seven categories: chain convenience stores that do not sell gas, chain convenience stores that do sell gas, gas only stations, liquor stores, pharmacies, small markets, and supermarkets. Table 2 shows the distribution of the stores in the sample by type.

Table 2. Number of stores by store type in the sample

<table>
<thead>
<tr>
<th>Store Type</th>
<th>2000</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain convenience stores without gas</td>
<td>29</td>
<td>42</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Chain convenience stores with gas</td>
<td>122</td>
<td>87</td>
<td>119</td>
<td>153</td>
</tr>
<tr>
<td>Gas only stations</td>
<td>37</td>
<td>78</td>
<td>53</td>
<td>25</td>
</tr>
<tr>
<td>Liquor stores</td>
<td>113</td>
<td>109</td>
<td>90</td>
<td>107</td>
</tr>
<tr>
<td>Pharmacies</td>
<td>40</td>
<td>49</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Small markets</td>
<td>139</td>
<td>140</td>
<td>143</td>
<td>134</td>
</tr>
<tr>
<td>Supermarkets</td>
<td>61</td>
<td>64</td>
<td>61</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>541</td>
<td>569</td>
<td>554</td>
<td>565</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004
Measures
The surveys were conducted by trained data collectors who received two days of training and a half-day of in-store practice. The data collectors counted the number of tobacco-related signs, functional items such as clocks and change trays, and displays used to promote the sale of tobacco. Information also was obtained about signs relating to illegal sales of tobacco to minors. Examples of the constructs assessed are shown below:

- Date of visit
- Store type
- Is a tobacco retailer license posted in the store?
- Presence of age-of-sale warning signs (STAKE Act [1-800-5ASK-4-ID], We Card, other signs produced by tobacco companies, other age-of-sale warning signs)
  - Interior
  - Exterior
- Total number of tobacco signs, displays, functional items, and/or plexiglass enclosed packs, including small hanging tags with special prices containing brand and company names (checklist by brand)
  - Interior
  - Exterior
- Tobacco signs, displays, functional items, plexiglass enclosed packs (checklist by brand)
  - Near counter (within four feet)
  - Away from counter
  - At or below height of three feet (even if behind counter)
  - Larger than 14 square feet
  - Near candy
- Promotions (checklist by brand)
  - Special price
  - Multi-pack discount
  - Free gift
- Shelving units (checklist by brand) [Note: If unlocked, these were classified as self service displays (below).]
- Self-service displays (checklist by brand)
- Ads with cartoons
For the items marked, “checklist by brand,” a list of brand names was provided, and the coder selected the brands that had ads in the store. The following brands were included on the survey:

- Philip Morris: Marlboro, other
- R.J. Reynolds: Camel, Winston, other
- Lorillard: Newport, other
- Brown and Williamson: GPC, Kool, other
- Other cigarette brands
- Smokeless tobacco: Copenhagen, Skoal, other

**Analysis**

Frequencies were computed for all categorical variables. Means and standard errors were computed for all continuous variables. All distributions were checked for normality, skewness, and kurtosis.

Each year, approximately ten percent of the stores were randomly selected to be coded by two coders to evaluate inter-rater reliability. Inter-rater reliability was assessed with kappa statistics for categorical variables and correlation coefficients for continuous variables. The results of the inter-rater reliability analyses are presented in Appendix A.

The average number of tobacco advertising materials per store was compared across store type and across years with analysis of variance (ANOVA) tests. Tukey’s post hoc comparisons were used to detect significant changes from 2000 to 2002 (where equivalent measures existed), from 2002 to 2003, and from 2003 to 2004. Finally, repeated measures were conducted to detect significant trends from 2000 to 2004.

The sample of ads was stratified by ad types (e.g., signs, functional items, displays, plexiglass enclosed packs), and the analyses above were repeated for each type of ad separately. Next, the ads were stratified by ad type and by brand, and the analyses were repeated within each brand.

Chi-square tests and t-tests for differences in proportions were used to evaluate changes in categorical variables across years, including the percent of stores with tobacco ads near counters, near candy, larger than 14 square feet in size, or below a height of three feet. Chi-square tests and t-tests for differences in proportions also were used to evaluate changes over time in the percent of stores with cigarette promotions, including free gifts, multi-pack discounts, and special prices, as well as the percent of stores with self-service displays and age-of-sale warning signs.
Results

Average Number of Tobacco Advertisements per Store

Key Findings:

• The average number of tobacco ads per store increased significantly from 19.0 in 2000 to 30.2 in 2004.
• The overall increase in number of tobacco ads per store was significant in chain convenience stores without gas, chain convenience stores with gas, gas only stations, pharmacies, and supermarkets.
• The largest increase in total number of tobacco ads per store occurred between 2000 and 2002.

From 2000 to 2004, the average number of tobacco ads per store increased from 19.0 to 30.2 (a 59 percent increase). As shown in Table 3, the mean number of tobacco ads per store increased significantly from 19.0 in 2000 to 25.0 in 2002 (a 32 percent increase). From 2002 to 2003, the number of ads significantly increased an additional 12 percent to 28.1. From 2003 to 2004, the number of ads increased slightly (a 7 percent increase to 30.2), but this increase was not statistically significant.

The significant increase in the number of tobacco ads from 2000 to 2002 was evident primarily in chain convenience stores and supermarkets. The number of tobacco ads in chain convenience stores increased from 13.4 in 2000 to 32.2 in 2002 (a 140 percent increase). From 2002 to 2003, this number increased slightly (to 36.6 ads, a 14 percent increase), and it increased slightly again from 2003 to 2004 (to 39.3 ads, a 7 percent increase), but neither of these increases was statistically significant. From 2000 to 2002, the number of tobacco ads in supermarkets increased 232 percent (from 12.0 to 39.8), and then it remained constant from 2002 to 2004. The large increase from 2000 to 2002 may have been due to the small hanging price tags with brand names and logos that became popular in supermarkets during this time.
Table 3. Mean number of interior and exterior tobacco advertising materials per store, by store type, and year

<table>
<thead>
<tr>
<th>Store Type</th>
<th>2000 Mean (SE)</th>
<th>2002 Mean (SE)</th>
<th>2003 Mean (SE)</th>
<th>2004 Mean (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain convenience stores without gas**</td>
<td>13.4 (1.6)</td>
<td>32.2* (3.0)</td>
<td>36.6 (3.0)</td>
<td>39.3 (2.6)</td>
</tr>
<tr>
<td>Chain convenience stores with gas**</td>
<td>18.1 (1.5)</td>
<td>24.4 (1.8)</td>
<td>29.7 (2.0)</td>
<td>30.5 (1.7)</td>
</tr>
<tr>
<td>Gas only stations**</td>
<td>10.4 (1.5)</td>
<td>17.2 (2.1)</td>
<td>17.6 (2.0)</td>
<td>19.5 (3.4)</td>
</tr>
<tr>
<td>Liquor stores</td>
<td>30.1 (2.1)</td>
<td>31.2 (2.2)</td>
<td>36.2 (2.6)</td>
<td>35.0 (2.2)</td>
</tr>
<tr>
<td>Pharmacies**</td>
<td>11.4 (1.6)</td>
<td>21.8 (2.7)</td>
<td>23.5 (3.2)</td>
<td>25.8 (2.9)</td>
</tr>
<tr>
<td>Small markets</td>
<td>19.3 (1.6)</td>
<td>16.9 (1.6)</td>
<td>21.5 (1.8)</td>
<td>18.7 (1.9)</td>
</tr>
<tr>
<td>Supermarkets**</td>
<td>12.0 (1.7)</td>
<td>39.8* (6.3)</td>
<td>36.4 (6.3)</td>
<td>49.7 (6.2)</td>
</tr>
<tr>
<td>Total</td>
<td>19.0 (0.8)</td>
<td>25.0* (1.1)</td>
<td>28.1* (1.1)</td>
<td>30.2 (1.2)</td>
</tr>
</tbody>
</table>

*Significant change from previous year, p<0.05
**Overall trend from 2000 to 2004 significant at p<0.05
\(^a\) Materials include all exterior ads, interior ads, ads on shelving units and displays and functional items
\(^b\) SE = Standard Error

Exterior and Interior Advertisements
All ads were classified as exterior (those that were visible from outside the store, including signs that were attached to the inside of a window but faced outwards) or interior (those that were visible from inside the store). Figure 1 shows an example of exterior tobacco advertising signs on a store.

Figure 2 shows the average number of interior and exterior ads in each type of store in 2000, 2002, 2003, and 2004. In all types of stores,
Figure 2. Mean number of exterior and interior advertisements by store type, 2000, 2002, 2003, and 2004

Source: USC TIME Store Study, 2002-2004
there were far more interior tobacco ads than exterior tobacco ads (with the exception of gas only stores in 2004, which had more exterior ads).

The most interior ads were found in supermarkets (49.5 interior ads per store in 2004), chain convenience stores without gas (35.0 interior ads per store in 2004), and liquor stores (29.9 interior ads per store in 2004). The fewest interior ads were found in gas only stores. From 2000 to 2004, the average number of interior ads increased significantly in chain convenience stores without gas (from 11.0 in 2000 to 35.0 in 2004), supermarkets (from 11.3 in 2000 to 49.5 in 2004), and pharmacies (from 11.3 in 2000 to 25.2 in 2004).

The most exterior ads were found in gas only stores (12.8 exterior ads per store in 2004), chain convenience stores with gas (5.3 exterior ads per store in 2004), and liquor stores (5.1 exterior ads per store in 2004). The fewest exterior ads were in supermarkets and pharmacies (less than one exterior ad per store in 2004). From 2000 to 2004, the average number of exterior ads increased significantly in gas only stores (from 3.8 in 2000 to 12.8 in 2004).

Table 4 shows the ratio of interior tobacco ads to exterior tobacco ads in each year. The highest ratio was observed in supermarkets in 2003 (363 interior ads for every one exterior ad).

| Table 4. Ratio of interior tobacco advertisements to exterior tobacco advertisements |
|-------------------------------|---|---|---|---|
| Store Type                  | 2000 | 2002 | 2003 | 2004 |
| Chain convenience stores without gas | 4.6 to 1 | 8.5 to 1 | 5.2 to 1 | 8.1 to 1 |
| Chain convenience stores with gas | 5.0 to 1 | 5.1 to 1 | 5.2 to 1 | 4.8 to 1 |
| Gas only stations            | 1.7 to 1 | 2.9 to 1 | 2.2 to 1 | 0.5 to 1 |
| Liquor stores                | 3.9 to 1 | 6.0 to 1 | 6.7 to 1 | 5.9 to 1 |
| Pharmacies                   | 113.0 to 1 | 216.0 to 1 | 25.1 to 1 | 42.0 to 1 |
| Small markets                | 3.9 to 1 | 5.8 to 1 | 7.0 to 1 | 6.5 to 1 |
| Supermarkets                 | 18.8 to 1 | 131.7 to 1 | 363.0 to 1 | 247.5 to 1 |
| **Total**                    | **13.8 to 1** | **9.3 to 1** | **46.9 to 1** | **35.9 to 1** |

Source: USC TIME Store Study, 2002-2004

For most store types, the ratio of interior ads to exterior ads remained relatively constant from 2000 to 2004. However, gas stations appeared to shift from interior to exterior tobacco advertising between 2000 and 2004. Supermarkets showed an increase in interior tobacco ads, but their exterior tobacco advertising remained almost nonexistent during this time period.
Types of Tobacco Advertisements in Stores

Key Findings:
- Signs are the most common form of tobacco ads in stores.
- The average number of tobacco signs per store increased significantly from 14.6 in 2000 to 27.7 in 2004.
- The overall 2000-04 increase in signs was significant in chain convenience stores without gas, chain convenience stores with gas, gas only stations, pharmacies, and supermarkets.

Tobacco ads in stores include signs on walls, windows, or doors; functional items such as clocks or change trays with tobacco logos; freestanding or countertop displays; and tobacco logos or signs on shelving units. Table 5 shows the mean number of each type of ad and promotional material in California stores from 2000 to 2004, by store type.

**Signs:** Tobacco signs were the most common form of ad throughout the study, with a mean of 27.7 signs per store in 2004. The overall 2000-04 increase in signs was significant in chain convenience stores with gas, chain convenience stores without gas, gas only stations, pharmacies, and supermarkets. The average number of tobacco advertising signs increased from 2000 to 2002 in supermarkets, chain convenience stores without gas, and pharmacies. Between 2002 and 2003, the number of tobacco signs also increased in small markets and chain convenience stores with gas. There were no statistically significant increases in the average number of tobacco signs from 2003 to 2004.

**Functional items:** Throughout the period of the study, few functional items with tobacco advertising were observed. Figure 3 provides an example of this type of marketing item.

The number of functional items per store decreased significantly from 1.7 in 2000 to 0.5 in 2004. This 2000-04 decrease was significant in chain convenience stores without...
gas, chain convenience stores with gas, liquor stores, and small markets. The percentage of stores that had at least one functional item was 62.9 percent in 2000, 25.1 percent in 2002, 26.7 percent in 2003, and 23.9 percent in 2004.

**Displays and shelving units:** Displays and shelving units are used to hold tobacco products. In this study, displays and shelving units were also considered to be self service displays if they were unlocked and/or allowed access by the customer. From 2000 to 2004, the average number of displays and shelving units remained essentially constant. However, the patterns of change in displays and shelving units varied by store type. In pharmacies, the average number of displays and shelving units decreased significantly from 5.8 in 2000 to 1.9 in 2002. After 2002, it remained low through 2004, with a mean of 2.1 displays per pharmacy in 2004. In supermarkets, the average number of displays and shelving units increased significantly from 0.3 in 2000 to 1.7 in 2004. Figure 4 provides an example of a display unit, which is typically more portable than a shelving unit.

**Plexiglass enclosed packs:** Although clear plexiglass cigarette pack dispensers typically are located behind the counter and prevent self-service access to the cigarette packs, they still display tobacco brand logos, making the cigarette packs themselves into ads for particular brands (Lee et al. 2001). From 2000 to 2004, the number of plexiglass enclosed packs per store decreased significantly from 0.8 in 2000 to 0.3 in 2004. This decrease was significant in chain convenience stores with gas, liquor stores, pharmacies, and small markets.
Table 5. Mean number of four types of tobacco advertising and promotional materials in stores, by store type, 2000-2004

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Signs*</th>
<th>Functional items</th>
<th>Displaysb</th>
<th>Plexiglass enclosed packs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain convenience stores without gas</td>
<td>10.0</td>
<td>29.3*</td>
<td>33.3</td>
<td>36.3</td>
</tr>
<tr>
<td>Chain convenience stores with gas</td>
<td>13.8</td>
<td>21.3</td>
<td>27.1*</td>
<td>27.8</td>
</tr>
<tr>
<td>Gas only stations</td>
<td>8.3</td>
<td>15.4</td>
<td>16.1</td>
<td>18.8</td>
</tr>
<tr>
<td>Liquor stores</td>
<td>23.2</td>
<td>27.0</td>
<td>31.8</td>
<td>31.1</td>
</tr>
<tr>
<td>Pharmacies</td>
<td>5.2</td>
<td>20.0*</td>
<td>21.6</td>
<td>23.7</td>
</tr>
<tr>
<td>Small markets</td>
<td>15.3</td>
<td>14.1</td>
<td>18.4*</td>
<td>16.7</td>
</tr>
<tr>
<td>Supermarkets</td>
<td>11.1</td>
<td>38.5*</td>
<td>34.9</td>
<td>48.0</td>
</tr>
<tr>
<td>Total</td>
<td>14.6</td>
<td>22.2</td>
<td>25.4*</td>
<td>27.7</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004

*Significant change from previous year, p<0.05
**Significant overall trend from 2000 to 2004, p<0.05

*a Signs include exterior ads, shelving unit logos or ads, display unit ads, all other interior ads

b Displays include both locked and self-service units
Prominent Brands

Key Findings:
The ads most frequently found in stores are for these brands
• Marlboro
• Camel

The Marlboro brand dominated the retail environment, with an average of 6.2 advertising materials per store. The second most commonly promoted brand was Camel. Table 6 shows each type of advertising material for each brand.

Table 6. Mean number of tobacco advertising materials by tobacco brand and ad type, 2004

<table>
<thead>
<tr>
<th>Tobacco Brand</th>
<th>Ad Type</th>
<th>Marlboro</th>
<th>Camel</th>
<th>Winston</th>
<th>Kool</th>
<th>Newport</th>
<th>Other Cigarettes</th>
<th>Smokeless</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total ads*</td>
<td>6.2</td>
<td>3.2</td>
<td>1.2</td>
<td>2.3</td>
<td>1.5</td>
<td>11.8</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>Exterior ads</td>
<td>0.9</td>
<td>0.8</td>
<td>0.1</td>
<td>0.4</td>
<td>0.3</td>
<td>1.3</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Exterior functional item</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Interior ads</td>
<td>4.0</td>
<td>1.9</td>
<td>0.9</td>
<td>1.8</td>
<td>1.1</td>
<td>9.7</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Interior functional items</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Interior shelving</td>
<td>1.0</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Interior displays</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.5</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004

*Columns may not total due to rounding error
Figure 5 shows the brands with the largest number of store ads in 2002, 2003, and 2004. In each year, Marlboro and Camel were the most prevalent brands. The mean number of Marlboro and Camel ads per store increased from 2003 to 2004. Advertising for the next three most common brands, Winston, Kool, and Newport remained constant throughout the study period.

**Figure 5. Mean number of advertisements for the five brands most commonly advertised, 2002-2004**

![Graph showing mean number of advertisements for five brands from 2002 to 2004](image)

Source: USC TIME Store Study, 2002-2004

**Tobacco Materials near Store Counters**

The area near the cash register is considered a premium site in the store, characterized by retailers as “the golden zone” in which products sell quickly (LeVeque 2003). As shown in Table 7, the vast majority of stores had tobacco advertising materials near counters, representing a cue to purchase for most store patrons. The percent of stores with tobacco advertising materials near counters remained relatively constant from 2002 to 2004, with no statistically significant changes.
Table 7: Percent of stores with one or more advertising materials near the counter, by store type, 2002-2004

<table>
<thead>
<tr>
<th>Store Type</th>
<th>2002 Percent</th>
<th>2003 Percent</th>
<th>2004 Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain convenience stores without gas</td>
<td>100.0</td>
<td>94.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Chain convenience stores with gas</td>
<td>97.7</td>
<td>95.0</td>
<td>94.1</td>
</tr>
<tr>
<td>Gas only stations</td>
<td>88.5</td>
<td>81.1</td>
<td>64.0</td>
</tr>
<tr>
<td>Liquor stores</td>
<td>95.4</td>
<td>97.8</td>
<td>94.4</td>
</tr>
<tr>
<td>Pharmacies</td>
<td>95.9</td>
<td>92.4</td>
<td>98.1</td>
</tr>
<tr>
<td>Small markets</td>
<td>79.2</td>
<td>83.9</td>
<td>70.1</td>
</tr>
<tr>
<td>Supermarkets</td>
<td>37.5</td>
<td>44.3</td>
<td>50.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>84.7</strong></td>
<td><strong>85.4</strong></td>
<td><strong>83.0</strong></td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004

Note: None of the changes were statistically significant

**Tobacco Promotions**

Key Findings:
- Special prices are the most common tobacco promotions.
- The largest tobacco companies (Philip Morris, R.J. Reynolds, Lorillard, Brown and Williamson, and USST) increased their use of special price promotions from 2002 to 2003.
- Smaller tobacco companies followed with an increase in special price promotions from 2003 to 2004.

Tobacco promotions to consumers are designed to promote tobacco purchases. Promotions include the posting of special prices, offering discounts for the purchase of Multiple packs, and offering free gifts with tobacco purchases. Figure 6 shows an example of a special price promotion. In 2004, 76 percent of the stores in the sample advertised promotions (Table 8). The most common form of promotion was special prices (found in 73 percent of stores), followed by multi-pack discounts (26 percent of stores), and free gifts (8 percent of stores).

From 2000 to 2004, Philip Morris brands significantly decreased their use of free gift and multi-pack discount
promotions, but they significantly increased their use of special price promotions. R.J. Reynolds and Brown and Williamson also significantly increased their use of special price promotions. From 2002 to 2003, the percent of stores with special price promotions increased for Philip Morris brands (e.g., Marlboro), R.J. Reynolds brands (e.g., Camel, Winston), Lorillard brands (e.g., Newport), Brown and Williamson brands (e.g., GPC, Kool), and USST brands (e.g., Copenhagen, Skoal). From 2003 to 2004, the percent of stores with special price promotions for these brands remained at their 2003 levels, but special price promotions of other brands increased.

Table 8. Percent of stores with discounts and promotions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Philip Morris Marlboro, other PM</td>
<td>7.0</td>
<td>2.0*</td>
<td>1.2**</td>
<td>27.1</td>
<td>15.0*</td>
<td>18.1**</td>
<td>47.9</td>
<td>61.0*</td>
<td>64.1**</td>
<td>54.0</td>
<td>61.9*</td>
<td>67.1**</td>
</tr>
<tr>
<td>R.J. Reynolds Camel, Winston, other</td>
<td>1.0</td>
<td>5.0*</td>
<td>3.0</td>
<td>17.9</td>
<td>20.0</td>
<td>11.0</td>
<td>25.0</td>
<td>31.0*</td>
<td>32.0**</td>
<td>35.0</td>
<td>35.9</td>
<td>35.9</td>
</tr>
<tr>
<td>Lorillard Newport, other</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.9</td>
<td>1.1</td>
<td>1.9</td>
<td>8.1</td>
<td>15.0*</td>
<td>12.0</td>
<td>9.0</td>
<td>16.1*</td>
<td>12.9</td>
</tr>
<tr>
<td>Brown and Williamson GPC, Kool, other</td>
<td>1.0</td>
<td>1.1</td>
<td>3.0*</td>
<td>3.0</td>
<td>5.0</td>
<td>5.0</td>
<td>17.0</td>
<td>30.0*</td>
<td>32.9**</td>
<td>20.0</td>
<td>31.9*</td>
<td>35.9**</td>
</tr>
<tr>
<td>USST Copenhagen, Skoal</td>
<td>0.0</td>
<td>0.0</td>
<td>1.1*</td>
<td>1.0</td>
<td>0.0*</td>
<td>4.1</td>
<td>1.9</td>
<td>4.0*</td>
<td>3.0</td>
<td>4.0</td>
<td>4.0</td>
<td>7.1*</td>
</tr>
<tr>
<td>Other cigarettes or tobacco</td>
<td>1.9</td>
<td>0.0*</td>
<td>1.1*</td>
<td>3.0</td>
<td>3.1</td>
<td>3.0</td>
<td>14.9</td>
<td>14.1</td>
<td>18.9*</td>
<td>17.9</td>
<td>16.1</td>
<td>21.9*</td>
</tr>
<tr>
<td>Total</td>
<td>11.1</td>
<td>7.9</td>
<td>8.0</td>
<td>39.0</td>
<td>33.9</td>
<td>26.0</td>
<td>62.9</td>
<td>70.0</td>
<td>72.9</td>
<td>69.9</td>
<td>72.0</td>
<td>75.9</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004
*Significant change from previous year, p<0.05
**Significant trend from 2000 to 2004, p<0.05
* Results should be interpreted with caution because this item had low inter-rater reliability
Youth-Oriented Advertising and Promotional Features

Key Findings:
- In 2004, nearly all stores (96.6 percent) were in compliance with the MSA requirement prohibiting large exterior tobacco signs (over 14 square feet).
- The percent of stores with tobacco signs over 14 square feet decreased from 2000 to 2004.
- In 2004, over three-fourths of California stores still had tobacco ads at or below a height of three feet.

Table 9 shows the prevalence of tobacco advertising and marketing practices that may be appealing to youth. These include self-service tobacco displays that allow customers to access tobacco without a clerk’s assistance, tobacco advertising signs or other materials placed below a height of three feet, tobacco ads placed near candy, and very large tobacco signs.

Table 9. Percent of stores with tobacco advertising materials that may be appealing to youth

<table>
<thead>
<tr>
<th>Type of Advertising</th>
<th>2000</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-service units (shelves or displays)**</td>
<td>19.2</td>
<td>4.9*</td>
<td>6.7</td>
<td>9.6*</td>
</tr>
<tr>
<td>Signs over 14 square feet</td>
<td>5.0</td>
<td>5.9</td>
<td>2.4*</td>
<td>3.4</td>
</tr>
<tr>
<td>Ads within six inches of candy*</td>
<td>11.3</td>
<td>12.5*</td>
<td>18.8*</td>
<td>14.6*</td>
</tr>
<tr>
<td>Ads under three feet</td>
<td>45.3</td>
<td>69.2*</td>
<td>71.7</td>
<td>75.4</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004

*Results should be interpreted with caution because this item had poor inter-rater reliability

†In 2004, this variable was further coded to show that 57.2 percent of ads were below three feet and could be seen by children. The remaining ads were under three feet but in a location not visible to young children, such as behind the counter.

*Significant change from previous year, p<0.05

**Significant change from 2000 to 2004, p<0.05

Tobacco signs larger than 14 square feet: In 2004, 3.4 percent of the observed stores had exterior tobacco signs over 14 square feet in size, indicating that 96.6 percent were in compliance with the MSA requirement prohibiting exterior tobacco signs over 14 square feet. The proportion of stores with exterior tobacco signs over 14 square feet decreased significantly from 2002 to 2003 and then remained constant from 2003 to 2004.
**Tobacco Advertising in Retail Outlets in California, 2000-04**

**Tobacco ads at or below a height of three feet:** In 2000, less than half of the stores (45.2 percent) had tobacco ads at or below a height of three feet. By 2004, this percentage had increased significantly to over three-fourths (75.4 percent) of stores. However, these results should be interpreted with caution because this survey item had poor inter-coder reliability.

**Tobacco ads near candy:** The percent of stores with tobacco ads within six inches of candy increased significantly from 11.3 percent in 2000 to 18.8 percent in 2003. Subsequently, this percentage decreased to 14.6 percent in 2004. However, these results should be interpreted with caution because this survey item had poor inter-coder reliability.

**Compliance with California’s Self-Service Cigarette Display Ban**

**Key Findings:**
- Much of this increase was due to smokeless tobacco brands, which accounted for 54 percent of the self-service displays.

A self-service display is a display of tobacco products that allows access to the product by customers without help from a clerk. Self-service displays, such as shelves or racks, can be accessed more easily by youth than tobacco products locked in plexiglass displays or located behind the counter. In 2002, 4.9 percent of the stores surveyed had self-service tobacco displays. By 2004, the prevalence of self-service displays had nearly doubled, to 9.6 percent. Beginning January 1, 2002, all cigarette self-service displays were prohibited by state law (California Business and Professions Code Section 22962). The increase in self-service displays of tobacco products from 2002 to 2004 may have been due to an increase in the self-service display of smokeless or other tobacco products, which accounted for 54 percent of the self-service displays. Beginning January 1, 2005, state law prohibited self-service display of all tobacco products including cigarettes, smokeless tobacco, and cigars as well as tobacco paraphernalia (e.g., roll your own papers).
Compliance with the STAKE Act Age-of-Sale-Warning Signs

Key Findings:

- Nearly all stores (95.6 percent) displayed some form of age-of-sale warning sign.
- However, in 2004, one-quarter of the stores were not fully compliant with state requirements for posting age-of-sale warning signs.

The STAKE Act mandates that every store that sells tobacco must post a sign at each point of purchase stating that tobacco products may not be sold to minors (California Business and Professions Code Section 22952[a]). The sign must be boldly printed with contrasting colors. It must state that the law requires retailers to check the identification of anyone who reasonably appears to be under 18 years of age. It must contain the following text: “The Sale of Tobacco Products to Persons Under 18 Years of Age Is Prohibited by Law and Subject to Penalties. Valid Identification May Be Required. To Report an Unlawful Tobacco Sale Call 1-800-5ASK-4-ID. Business and Professions Code Section 22952.”

Table 10 shows the percent of stores that displayed STAKE Act or other age-of-sale warning signs. From 2002 to 2004, there was a significant 39 percent increase in the number of stores displaying STAKE Act signs, from 53.6 percent in 2002 to 74.3 percent in 2004. Nearly three-fourths (74.3 percent) of stores posted STAKE Act signs in 2004.

Table 10. Percent of stores with one or more age-of-sale warning signs, 2002-2004

<table>
<thead>
<tr>
<th>Type of Sign</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>We Card</td>
<td>77.5</td>
<td>83.2</td>
<td>84.3</td>
</tr>
<tr>
<td>STAKE Act**</td>
<td>53.6</td>
<td>64.3*</td>
<td>74.3*</td>
</tr>
<tr>
<td>Other</td>
<td>27.8</td>
<td>37.4*</td>
<td>24.6*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>92.4</td>
<td>96.9</td>
<td>95.6</td>
</tr>
</tbody>
</table>

Source: USC TIME Store Study, 2002-2004

Significant change from previous year, p<0.05

*Significant change from 2000 to 2004, p<0.05
“We Card” signs, which are produced by the Coalition for Responsible Tobacco Retailing, were found in 84.3 percent of stores surveyed in 2004. The slight increase in “We Card” signs from 2002 to 2004 (from 77.5 percent to 84.3 percent of stores) was not statistically significant.

Overall, in 2004, 95.6 percent of the stores displayed some type of age-of-sale warning sign. This was a slight, but not statistically significant, increase from 92.4 percent in 2002. It appears that most California stores are making an attempt to display age of sale warning signs, but the signs produced by the tobacco industry are used more often than the required STAKE Act signs.


**Discussion**

Tobacco advertising and promotions in stores represent the dominant methods used by the tobacco industry to market their products. The tobacco industry advertising expenditures in the store environment increased dramatically from 2000 to 2002, following the 1999 ban on tobacco advertising on billboards. From 2002 to 2004, the overall number of tobacco ads per store increased slightly, but the increase was not as dramatic as the increase that occurred immediately after the MSA, from 2000 to 2002.

In the period from 2000 to 2004, several trends occurred that are of concern to the tobacco control field. They include the following:

- With 83 percent of stores placing tobacco advertising materials near the cash register, most customers are cued to buy tobacco. The area near the counter is important for point-of-sale marketing because it is an area where impulse purchases typically occur. “Push” promotions such as multi-pack discounts, especially when advertised in this area, are a powerful method to persuade customers to buy tobacco products. These “push” promotions are becoming more effective than traditional “pull” advertising (radio, television, and print media), because the media audience has become more segmented and saturated with advertising (CDHS 2005).

- The prevalence of self-service tobacco displays increased between 2002 and 2004. Because self-service displays give youth easier access to cigarettes, cigarette self service displays were prohibited in California starting in 2002. The increase in self service displays after 2002 is partially due to smokeless tobacco or other tobacco self-service displays, which were legal until 2005 and accounted for 54 percent of the self-service displays observed in this study. The increase in self service displays also could have been due to lack of compliance, such as cigarette displays that were kept unlocked. In this study, unlocked or open displays that were within reach of the customer were counted as self-service.

- Stores generally have more interior tobacco ads than exterior tobacco ads. However, exterior ads have the potential to be seen by a larger number of people. Exterior tobacco advertising appears to be increasing, especially in gas only stores.

- Approximately three-fourths of California stores still have tobacco ads below a height of three feet, at the eye level of young children.

- Although nearly all stores (96 percent) appear to be making some effort to post age of-sale warning signs, many of these signs are not compliant with the STAKE Act requirements. One-fourth of California stores did not have the appropriate STAKE Act signage. More stores carried the tobacco industry age-of-sale warning signs than the state-mandated signs.
• The percentage of stores with STAKE Act signage increased dramatically from 53.6 percent in 2000 to 74.3 percent in 2004. The significant increase in STAKE Act age-of-sale warning signs from 2002 to 2004 may be the result of efforts begun in 2002 by the California Attorney General’s Office and a 2003 Governor’s Executive Order (D-68-03) issued. The Attorney General’s Office worked with the Coalition for Responsible Tobacco Retailing to make revisions in the information and materials that it distributes to retailers to communicate clearly to California retailers that state law requires a specific age-of-sale warning sign and notifying them that the “We Card” sign did not meet state requirements. The Attorney General’s Office also worked with Philip Morris to change its underage cigarette sales prevention policy to alert retailers regarding California’s state specified age-of-sale warning requirements. Executive Order D-68-03 addressed illegal tobacco sales to minors and required all state agencies that inspect retail establishments that sell tobacco to check for the presence of STAKE Act age of sale warning signs.

LIMITATIONS
Despite the comprehensive nature of the TIME Project’s data collection, the data are subject to several limitations. First, the results of this study address only the types of retail tobacco advertising that were included on the survey. If new types of advertising emerged during the period of data collection, they may have been missed by the survey. Therefore, ongoing qualitative and quantitative monitoring activities are needed to identify new trends in retail tobacco advertising as early as possible, so that effective policies and counter-advertising strategies can be implemented.

Although most of the measures in the survey had acceptable inter-rater reliability, some measures had poor inter-rater reliability. In general, those with poor reliability were the questions that required the rater to make a judgment, such as whether tobacco ads were near candy or away from candy, near the counter or away from the counter, below a height of three feet, etc. For some of these measures, it appears that more intensive coder training can improve the inter-rater reliability. For example, the inter-rater reliability for the number of interior ads near the counter increased from 0.16 in 2002 to 0.66 in 2003 and 0.74 in 2004, as a result of more precise definitions of “near counter” and more intensive coder training. Further research is needed to develop the most accurate measures of other aspects of retail tobacco advertising possible.

As of June 30, 2004, all tobacco retailers must be licensed annually by BOE and retailers must display their licenses so that they are visible to the public (California Business and Professions Code 2003). Continued store monitoring and enforcement efforts are needed to ensure that stores comply with this requirement. The licensing process represents a potential opportunity to check stores’ compliance with advertising restrictions.
**Recommendations**

Based on the TIME Project evaluation, the following recommendations are indicated:

1. **Increase store compliance with STAKE Act signage requirements.** Vigorously enforce age-of-sale warning laws.

2. **Monitor the enforcement of the new ban on self-service displays.** In January 2005, smokeless tobacco and other tobacco products could no longer be sold in self-service displays, adding to earlier restrictions on cigarette self-service displays. Because the prevalence of self-service displays increased from 2000 to 2004, it will be important to monitor stores to ensure that they comply with these laws and remove or lock all self-service displays.

3. **Enforce compliance before granting licenses to stores.** Before granting stores the newly-required licenses to sell tobacco, check that they are fully compliant with STAKE Act signage regulations and do not have self-service displays or tobacco ads below a height of three feet, over 14 square feet in size, near candy, or near the cash register.

4. **Pursue the addition of anti-preemption language in the Federal Cigarette Labeling and Advertising Act (FCLAA).** Prior to the 2001 United States Supreme Court ruling in Lorillard versus Reilly, California had over 40 local ordinances that restricted the placement of retail tobacco advertising to decrease its visibility to young children. The ruling in effect struck down these local ordinances and the authority of local and state governments to enact laws to restrict the appeal of tobacco advertising and marketing to children. Only Congress has the authority to amend the FCLAA to permit local and state governments to restrict tobacco advertising.
References


LeVeque, M. What is Happening in California Stores? California Tobacco Control Section Project Directors' Meeting, Newport Beach, California, April 2003.


### Appendix A

**Inter-Rater Reliability of the California Store Tobacco Advertising Survey 2002–2004**

<table>
<thead>
<tr>
<th>Question</th>
<th>Variable Type</th>
<th>Statistical Test</th>
<th>Inter-rater reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>Store type</td>
<td>Categorical</td>
<td>Kappa</td>
<td>0.774</td>
</tr>
<tr>
<td>Are bidis sold in the store?</td>
<td>Categorical</td>
<td>Kappa</td>
<td>1.00</td>
</tr>
<tr>
<td>Are Proposition 65 signs posted?</td>
<td>Categorical</td>
<td>Kappa</td>
<td>1.00</td>
</tr>
<tr>
<td>No. of interior “We Card” age of sale warning signs</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.874</td>
</tr>
<tr>
<td>No. of interior “1-800-5ASK4ID” age-of-sale warning signs</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.727</td>
</tr>
<tr>
<td>No. of interior displays</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.371</td>
</tr>
<tr>
<td>No. of interior shelving units</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.866</td>
</tr>
<tr>
<td>No. of interior tobacco ads</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.711</td>
</tr>
<tr>
<td>No. of interior ads price posted</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.622</td>
</tr>
<tr>
<td>No. of interior ads special price</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.268</td>
</tr>
<tr>
<td>No. of interior ads multi-pack discount</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.606</td>
</tr>
<tr>
<td>No. of interior ads near counter</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.157</td>
</tr>
<tr>
<td>No. of interior ads near candy</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.068</td>
</tr>
<tr>
<td>No. of interior ads below height of three feet</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.438</td>
</tr>
<tr>
<td>No. of exterior ads</td>
<td>Numerical</td>
<td>Correlation</td>
<td>0.918</td>
</tr>
</tbody>
</table>

Quality: 0.80 to 1.00 = Excellent, 0.60 to 0.80 = Very Good, 0.40 to 0.60 = Acceptable, under 0.4 = Poor
