2016 Healthy Stores for a Healthy Community Technical Report

Issued: March 8, 2017

Background

The California Department of Public Health, California Tobacco Control Program's first efforts in collecting data in the retail environment was in the mid-1990s with "Operation Storefront," which exposed the targeted marketing of tobacco products to youth. The continued investments of the tobacco industry in marketing and promotions in the retail environment, spending more than $8 billion in 2011, and conclusions by the 2012 Surgeon General's Report that exposure to tobacco marketing in stores increases tobacco experimentation and use by youth, renewed the California Tobacco Control Program's interest in a campaign to combat tobacco marketing in California stores.

In 2013, the California Tobacco Control Program kicked off the new Healthy Stores for a Healthy Community campaign by working collaboratively with the 61 county and municipal local lead agencies (LLAs)[1] to assess the retail store environment and its potential impact on youth. The Healthy Stores for a Healthy Community marketing survey measured the availability of a range of unhealthy and healthy products, as well as marketing practices for tobacco, alcohol, and food and beverage items. The California Tobacco Control Program invited partners in the Nutrition Education and Obesity Prevention Branch at the California Department of Public Health and the Substance Use Disorders Program at the California Department of Health Care Services to join the campaign and look at the retail environment from a more comprehensive perspective, integrating tobacco, alcohol, and nutrition topics, as there were many local and state efforts examining one or more of these health issues in community stores. This collaboration is part of the state's continued effort to address the burden of chronic disease and to better understand the role that stores could play in making communities healthier. In 2013, the 61 LLAs completed the Healthy Stores for a Healthy Community survey in a total of 7,393 randomly selected stores that sell tobacco throughout the state of California. The information collected was used for educational purposes, informing local efforts to improve the retail environment in their community. The 2013 Healthy Stores for a Healthy Community survey Technical Report can be found online here.

In 2016, the LLAs completed a follow-up survey in 7,152 randomly selected stores that sell tobacco statewide. The aim was to evaluate the campaign's impact to date, and to continue to monitor changes in the retail environment. The California Tobacco Control Program continued its collaboration with the Nutrition Education and Obesity Prevention program and the Substance Use Disorders program in 2016. The Sexually Transmitted Diseases Control Branch at the California Department of Public Health also joined the campaign that year to better understand access to affordable condoms, in light of the growing rate of sexually transmitted diseases among young people in California.

Survey Development and Testing

---

[1] Local Lead Agencies are legislatively designated as the 61 county and city health departments, or a governmental or private non-profit agency when the local health department is unable to fulfill the mandates of the local lead agency.

In preparation for the 2013 data collection, the California Tobacco Control Program contracted with the Stanford Prevention Research Center to design the observational survey instrument. The Stanford team brought to the project many years of experience developing similar tools for other California and national observational tobacco retail marketing surveys. In conjunction with multiple partners, including LLA staff, the Tobacco Control Evaluation Center, state and local public health partners in the fields of nutrition and alcohol, and other experts, the California Tobacco Control Program and Stanford finalized the tool in early 2013 and field-tested it in local communities before the statewide survey was launched.

In 2016, the California Tobacco Control Program again worked with the Stanford Prevention Research Center to update the survey instrument, collaborating with the statewide Nutrition Education and Obesity Prevention, Substance Use Disorders and Sexually Transmitted Diseases Control programs, and soliciting feedback from the California Tobacco Control Program staff, LLA staff and the Tobacco Control Evaluation Center. The survey was programmed into a survey platform for use on handheld devices, called SurveyAnalytics, which synchs to an application called SurveyPocket and allows offline data collection. The Tobacco Control Evaluation Center provided technical support and training for LLA staff and volunteer data collectors on using the new survey platform, including more in-depth training for new staff members who were not part of the 2013 data collection effort. The revised survey instrument was pilot tested with youth and adult data collectors to ensure revisions were understandable and that the survey application was easy to use. In March 2016, a "Train-the-Trainers" event was held in Sacramento for over 200 LLA staff, as well as local-level public health Nutrition, Alcohol, Sexually Transmitted Diseases Control and Chronic Disease Control program representatives who would help lead the local data collection trainings. Participants then returned home to conduct the training for their local staff and volunteers who would collect the data in their communities.

Changes to the 2013 survey instrument were made only when necessitated by changes in the retail environment or program priorities. Otherwise, questions remained as close to the 2013 survey as possible to ensure comparability of the results. As in 2013, the 2016 survey format consisted of a core set of required questions and four optional modules the LLAs could elect to complete. The major changes to the core survey included: moving the nutrition and alcohol module questions to the core survey, a new question about the availability of different types of electronic smoking devices that have emerged on the California market since 2013, and three questions about condom availability, pack size and price. The 2016 core survey was therefore extended to forty-eight required questions. In addition, a new optional module was introduced, offering twelve new questions about electronic smoking devices. The three other optional modules offered in 2016 included additional questions about flavored tobacco products; price and promotions; and product placement and exterior advertising.

Sampling Methodology

The sampling frame was based on the state Board of Equalization list of stores that sold tobacco and had applied and paid for a state tobacco retail license. The 2016 survey used the same random sample of zip codes as the 2013 survey, updating the list of stores with the list of licensed tobacco retailers as of December, 2015 (which consisted of 34,428 total stores). LLAs were provided with the same required zip codes to survey, but, as in 2013, they were again given the opportunity to increase their sample size to the "optimal" level, and were encouraged to survey the same randomly selected zips beyond the minimum required sample that they surveyed in 2013. All eligible stores within the zip code were again included in the sample. Data from non-randomly selected stores were analyzed separately by the LLA and were not included in local, regional and statewide analyses.

The sample excluded all stores that prohibited youth from entering their premises, such as bars or nightclubs that sell alcohol. In addition, stores were not included if they required paid memberships (e.g., Costco), required payment for entry (e.g., state parks), or were otherwise restricted to the public (e.g., military bases).

Data Collection

Data collection was completed using handheld devices such as iPod touches. Using the SurveyPocket application, data collectors inputted data into a mobile application that saved the data without requiring internet or data connectivity. Using SurveyAnalytics, the administrative website for the SurveyPocket application, the Tobacco Control Evaluation Center created a master account and provided each LLA with access credentials to the mobile survey, which were then entered into all data collection devices. The survey application was downloaded onto each device via Wi-Fi connection. The data were then collected offline. Once the devices were within Wi-Fi range, data were automatically sent to the survey database and were then accessed by the password-protected administrative website. The survey instruments used by the LLAs in 2016 included the required core survey questions plus any additional optional survey modules selected by the LLAs, described above.

In all, between March and June, 2016, over 600 people participated in data collection efforts statewide, with over 300 of them youth volunteers. During this time, the Tobacco Control Evaluation Center created a hotline and answered calls from LLAs in order to ensure that all technical assistance needs were met. LLAs partnered with numerous different organizations to collect data, including local nutrition and alcohol partners, youth coalitions, college campus organizations, law enforcement groups, and community organizations, including Friday Night Live, local chapters of the American Lung Association, faith-based groups, and county offices of education.

Of the 7,152 total stores surveyed in 2016, 2,455 (34.33%) were convenience stores (with or without gas stations), 297 (4.15%) were drug stores or pharmacies, 1,085 (15.17%) were liquor stores, 566 (7.91%) were supermarkets or large grocery stores, 1,375 (19.23%) were small markets, 397 (5.55%) were tobacco stores, and 977 (13.66%) were other types of stores (e.g., vape shops, hookah lounges, donut shops, etc.) (See Table 1 below.)

Table 1. Types of stores that were surveyed, 2016

Total	Convenience stores	Drug stores/ pharmacies	Liquor stores	Supermarket/ large grocery stores	Small markets	Tobacco Stores	Other
7,152	2,455	297	1,085	566	1,375	397	**977**
100%	34.33%	4.15%	15.17%	7.91%	19.23%	5.55%	13.66%

Data Analyses

Local, regional, and state-level analyses were conducted using Healthy Stores for a Healthy Community survey data. In 2016, of the list of over 9,000 stores sent to LLAs, 7,955 stores met all eligibility requirements, and 7,152 surveys were successfully completed, for a 90% completion rate. Reasons for non-completions included that the store was out of business, the store environment was unsafe for the data collector, or the data collector was asked to leave the store before completing the survey.

The Tobacco Control Evaluation Center performed periodic monitoring of the data as LLAs uploaded their survey results during their data collection period. The function of the monitoring was to ensure that for each LLA, the number of results communicated matched the number of results in the database. Once the Tobacco Control Evaluation Center performed these checks, they confirmed the match with each LLA. Using a template for uniformity, emails were sent to the LLAs, confirming the quantity of stores and devices, device names, data collector ID #s, date/date ranges, module(s), and the total number of completed surveys. Once all 61 LLAs completed data collection from all the stores in their samples, the Tobacco Control Evaluation Center sent the data to the Stanford team for data cleaning and analysis. The final datasets were sent to the LLAs, via email, upon ensuring that they signed and returned a Data Security Form stating their understanding that the data must be kept confidential prior to the statewide coordinated media release.

In sum, 7,152 total stores selected from the random sample were visited and surveys were completed and analyzed. Analysis was conducted by the Stanford Prevention Research Center. A weight was applied to compensate for the different proportion of zip codes that were selected in each jurisdiction for the statewide estimates. A cluster sampling design effect was also accounted for in the analysis of statewide and local-level analyses. Results were suppressed for items with a small sample size (n =< 5) and for results considered unreliable (coefficient of variation greater than or equal to 0.5). While data for three city health departments (Berkeley, Long Beach and Pasadena) were analyzed separately, results for Alameda County include the city of Berkeley and results for Los Angeles County include the cities of Pasadena and Long Beach.

The distance of a surveyed store to a school was calculated using Geographic Information Systems (GIS) software and was provided by Stanford Prevention Research Center staff, using public school boundary files from the California School Campus Database. Stores were counted as being near a school if they were located within 1,000 feet of the school boundary. The Nutrition Education and Obesity Prevention program provided information regarding which stores were located in low-income areas, using the federal poverty classification developed by the Supplemental Nutrition Assistance Program (SNAP): census tracts in which 50% or more of the overall population had incomes at or below 185% of the Federal Poverty Level (FPL), using the American Community Survey 2010 – 2014 (ACS 10-14), US Census Bureau.

Twenty-seven of the sixty-one LLAs completed the Flavored Products Module, sixteen completed the Price and Promotions Module, twenty-eight completed the Placement and Exterior Advertising Module, and thirty-five completed the Electronic Smoking Devices Module. Sixteen LLAs completed all four optional survey modules. (See Table 2 below.) Data from the survey modules were analyzed separately by the LLA.

Table 2. Number of LLAs completing different 2016 Optional Survey Modules.

Module	# of LLAs completing
Flavored Products	27
Price & Promotions	16
Placement & Exterior Ads	28
Electronic Smoking Devices	35
All Four Modules	16

Staff members from the California Tobacco Control Program, the Tobacco Control Evaluation Center, the LLAs, and the statewide Nutrition Education and Obesity Prevention, Substance Use Disorders and Sexually Transmitted Diseases Control programs selected priority variables for analysis. The results of these analyses were shared with the LLAs and instructions were provided to the field for interpreting the data, including differences between local and statewide frequencies as well as differences between 2013 and 2016 results.

Two maps were developed for each LLA: one which portrayed the location of stores that sell tobacco in their jurisdiction and the percentage of school-age residents (ages 5-17) within each zip code, and one which displayed stores that sell tobacco and the median household income of residents within each zip code. Ranges for displaying the demographics in each map, as listed in the map legend, were generated by dividing the range of values for the zip codes in the county/LLA jurisdiction into 5 equal-sized intervals. The zip code areas on the map were colored according to the interval corresponding to their value for the demographic variable of interest. The maps were created using data from the California Community Health Assessment Tool (CCHAT) and the list of licensed tobacco retailers from the California Board of Equalization, December 2015. The CCHAT website was created by the Stanford Prevention Research Center and GreenInfo Network, with funding from the Tobacco-Related Disease Research Program grant #22RT-0142.

Variables analyzed include[2]:

Percent of stores selling electronic smoking devices[3]
Percent of stores selling flavored non-cigarette tobacco products[4]
Percent of stores selling little cigars/cigarillos
Percent of stores selling chewing tobacco
Percent of stores selling single cigarillos
Percent of stores selling Swisher Sweets cigarillos for under $1
Percent of stores selling menthol cigarettes
Percent of stores with tobacco marketing in kid-friendly locations[5]
Percent of stores with healthy storefront advertising[6]
Percent of stores with unhealthy storefront advertising[7]
Percent of stores selling alcohol
Of the stores that sell alcohol, percent of stores that have alcohol advertising on the storefront
Of the stores that sell alcohol, percent of stores that sell alcopops
Of the stores that sell alcohol, percent of stores with alcohol ads near candy, toys, or below three feet

---

[2] An Excel spreadsheet with all 61 health departments' data, including confidence intervals, can be found on the HSHC website in the Campaign Resources page here.
[3] Electronic smoking devices include e-cigarettes, e-hookah, e-cigars, refill cartridges, vape pens, mods/tanks, and e-liquids.
[4] Non-cigarette tobacco products include electronic smoking devices and all other tobacco products except cigarettes.
[5] This variable is a composite of four survey questions assessing whether a store has: any tobacco product within 6 inches of candy; candy and tobacco on/next to the front counter; tobacco advertising within three feet of candy or toys; or tobacco advertising below three feet.
[6] Healthy storefront advertising is defined as advertising for fruit or vegetables (fresh, frozen, or canned), or healthy beverages (water, 100% juice, low or non-frat milk).
[7] Unhealthy storefront advertising is defined as advertising for tobacco products (including e-cigarettes), sugary drinks (soda, chocolate milk, sports/energy drinks), or alcoholic beverages, products or branded merchandise.

Of the stores that sell alcohol, percent of stores that sell malt liquor
Percent of stores selling fresh fruit or vegetables
Percent of stores selling low-fat or non-fat milk
Percent of stores selling sugary drinks at the check-out area
Percent of stores that advertise sugary drinks on the storefront
Percent of stores that sell condoms
Percent of stores that have condoms accessible on the shelf and unlocked

Besides providing statewide and LLA-specific frequency tables, the California Tobacco Control Program also provided region-specific data. Twelve regions were devised based on geographic proximity as well as shared media markets. These twelve regions are:

Shasta Cascade: Butte, Glenn, Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, Trinity
*Bay Area: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara, Solano
Central Valley: Fresno, Kern, Kings, Madera, Mariposa, Merced, Tulare
North Coast: Del Norte, Humboldt
*Greater Los Angeles: Los Angeles, Orange
Eastern Sierras: Alpine, Inyo, Mono
Central Coast: Monterey, San Benito, Santa Cruz
Inland Empire: Riverside, San Bernardino
Gold Country: Amador, Calaveras, Colusa, El Dorado, Nevada, Placer, Sacramento, San Joaquin, Stanislaus, Sutter, Tuolumne, Yolo, and Yuba
Greater San Diego: Imperial, San Diego
Gold Coast: San Luis Obispo, Santa Barbara, Ventura
North Bay: Lake, Marin, Mendocino, Napa, Sonoma
*The three city LLAs (Berkeley, Long Beach, and Pasadena) are included in the regions associated with their county affiliation (Berkeley is in Bay Area Region; Long Beach and Pasadena are included in the Greater Los Angeles Region).