

### Point-of-Purchase Alcohol Marketing and Promotion by Store Type — United States, 2000–2001

Alcohol consumption is the third leading preventable cause of death in the United States, accounting for approximately 100,000 deaths annually (1). Efforts to reduce the adverse health and social consequences from alcohol use include policies to restrict access to alcohol among underaged persons (i.e., persons aged <21 years) and to reduce alcohol-impaired driving among persons of all ages (2). Recent studies have focused on alcohol marketing as a potentially important contributor to alcohol consumption, particularly among underage drinkers (3). Point-of-purchase (POP) (i.e., on-site) marketing, including alcohol advertising and placement, can increase alcohol sales and consumption substantially (4), thereby increasing the risk for various alcohol-related health outcomes, including alcohol-impaired driving and interpersonal violence (5–7). To assess the type and frequency of POP alcohol marketing, researchers with the ImpacTeen Project\* collected and analyzed store observation data during 2000–2001 from 3,961 alcohol retailers in 329 communities throughout the United States. This report summarizes the results of the study, which indicate that POP alcohol marketing is extensive in certain store types frequented by teenagers and young adults. Public health agencies and policy makers should work with liquor control boards to reduce POP marketing that could promote risky or underage drinking.

Communities with one or more public schools that participated in either the 2000 or 2001 Monitoring the Future surveys (nationally representative surveys of 8th-, 10th-, and 12th-grade students) (8) were eligible to be included in the study. Private and magnet schools (comprising approximately 20% of the original sample) were not included in this study. Community boundaries were defined by the area from which each school drew ≥80% of its student population. Retailers selling tobacco and alcohol products in each community were selected randomly for observation from lists of all potential alcohol and/or tobacco retailers as identified by their Standard Industrial Classification codes†. Of the total 6,031 observed stores, 3,961 (66%) were alcohol retailers and were included in this study.

\* A policy research partnership supported by the Robert Wood Johnson Foundation for reducing youth substance use. Member institutions include the University of Illinois at Chicago, the University of Michigan, Andrews University, and Roswell Park Cancer Institute.

† A numeric system used to classify U.S. industries and businesses for the collection, analysis, and dissemination of industry statistics developed by the Office of Management and Budget.

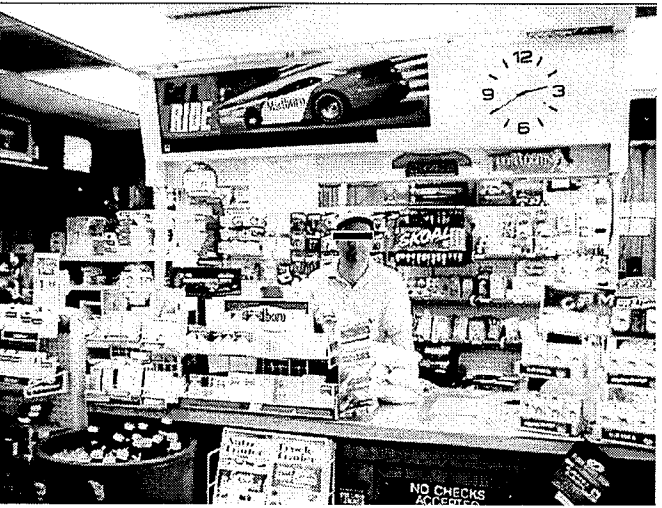
In each alcohol retail establishment, field staff observed the presence of various POP alcohol marketing characteristics in a standardized manner, including 1) exterior and interior advertisements for alcoholic beverages and the intensity of such advertising, 2) alcohol beverage control signage (e.g., health warnings), 3) alcohol-branded functional objects provided free to retailers (e.g., counter change mats with an alcohol company logo), 4) beer placement (e.g., single cans or bottles chilled in buckets near checkout locations (Figure) or not chilled on shelf), and 5) the presence of low-height advertisements (i.e., advertisements placed within 3.5 feet of the floor, in the sight line of children and adolescents as opposed to adults).

The GENMOD procedure in SAS v.8 was used to determine generalized estimating equations that accounted for community clustering, specifying a binomial distribution and a logit link function. For all analyses, weights were included to account for community sampling procedures and store selection probabilities; supermarkets were the referent category.

The majority of stores (94%) had some form of POP alcohol marketing (i.e., store exterior, store interior, and/or parking lot or other property advertising and/or alcohol-branded functional objects). Exterior alcohol advertisements were observed in 39% of stores (Table 1); 27% of stores had high-intensity exterior advertising§. Compared with supermarkets,

§ Based on the exterior space available for advertising and on the number and size of advertisements.

FIGURE. Convenience store offering single bottles of beer chilled in bucket for sale near checkout location — North Carolina, 1999



Photo/Battelle Centers for Public Health Research and Evaluation, 1999

**TABLE 1. Percentage of exterior and interior alcohol advertising, by store type\* — United States, 2000–2001**

Store type	Exterior alcohol advertisements: high-intensity† (N = 3,805)				Interior alcohol advertisements: high-intensity‡ (N = 3,917)				Interior alcohol advertisements: low-height§ (N = 3,960)			
	%	OR**	(95% CI)††	p value	%	OR	(95% CI)	p value	%	OR	(95% CI)	p value
Supermarket	0.9	1.0	(Referent)		11.6	1.0	(Referent)		30.1	1.0	(Referent)	
Convenience	29.3	48.2	(18.5–125.8)	p<0.001	33.7	3.9	(2.2–6.7)	p<0.001	33.7	1.2	(0.8–1.6)	
Convenience/Gas	26.6	42.3	(15.8–113.4)	p<0.001	38.4	4.8	(2.8–8.1)	p<0.001	48.2	2.2	(1.4–3.4)	p<0.001
Small grocery	17.3	24.5	(9.4–63.4)	p<0.001	31.3	3.5	(1.8–6.7)	p<0.001	35.5	1.3	(0.8–2.2)	
Drug store/Pharmacy	11.7	15.5	(5.3–45.2)	p<0.001	11.2	1.0	(0.5–1.8)		41.5	1.6	(0.8–3.3)	
Liquor store	60.3	176.8	(60.8–514.2)	p<0.001	70.7	18.5	(9.9–34.5)	p<0.001	68.9	5.1	(2.6–10.0)	p<0.001
<b>Total</b>	<b>27.1</b>				<b>36.5</b>				<b>43.6</b>			

\* Supermarkets serve as the referent category in all odds ratios. The total for each analysis varies as noted above; the ranges of sample sizes by store type for the 2 years studied are as follows: supermarket, n = 487–495; convenience, n = 658–683; convenience/gas, n = 1,148–1,216; small grocery, n = 540–555; drug store/pharmacy, n = 186–191; liquor store, n = 589–617; and other, n = 197–203. "Other" store category is included in analyses but not shown in table.

† Based on the exterior space available for advertising and on the number and size of advertisements.

‡ Outside of areas in which alcohol products are sold or displayed.

§ Placed  $\leq$ 3.5 feet above the floor level.

\*\* Odds ratio.

†† Confidence interval.

liquor stores (odds ratio [OR] = 176.8), convenience stores (OR = 48.2), convenience/gas stores (OR = 42.3), small grocery stores (OR = 24.5), and drug stores/pharmacies (OR = 15.5) were more likely to have high-intensity exterior alcohol advertising.

Interior alcohol advertisements were observed in 92% of stores, and 37% of stores had high-intensity interior advertising<sup>‡</sup>. Liquor stores (OR = 18.5), convenience/gas stores (OR = 4.8), convenience stores (OR = 3.9), and small grocery stores (OR = 3.5) were more likely than supermarkets to have high-intensity interior advertisements. Low-height advertisements were found in 44% of stores. Low-height advertising was more common in liquor stores (OR = 5.1) and in convenience/gas stores (OR = 2.2) than in supermarkets. Less than half (48%) of the stores in the sample had alcohol control or counter-alcohol signage, with no statistically significant differences by store type.

Approximately half (51%) of the stores provided at least one alcohol-branded functional object. These objects were more likely to be in liquor stores (OR = 4.2), convenience stores (OR = 1.8), and small grocery stores (OR = 2.0) than in supermarkets (Table 2).

Among all types of stores, beer was located most commonly in coolers (96%), in floor displays (44%), on shelves (23%), and as singles in ice buckets (16%). Single beers in ice buckets, located most often near checkout locations, were most likely to be found in convenience stores (27%), convenience/gas stores (18%), and small grocery stores (27%) (Table 2). Shelf displays of beer were most common in supermarkets (47%) and drug stores (43%); 1% of stores placed beer behind a counter or in a closed or locked cabinet.

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<sup>§</sup> Advertising outside of areas where alcohol products were sold or displayed.

**TABLE 2. Percentage of alcohol-branded functional objects and beer product placement, by store type\* — United States, 2000–2001**

Store type	Alcohol-branded functional objects† (N = 3,958)				Beer singles in ice bucket‡ (N = 3,810)				Beer on shelf§ (N = 3,810)			
	%	OR**	(95% CI)††	p value	%	OR	(95% CI)	p value	%	OR	(95% CI)	p value
Supermarket	38.7	1.0	(Referent)		4.3	1.0	(Referent)		47.5	1.0	(Referent)	
Convenience	53.7	1.8	(1.3–2.6)	p<0.01	27.0	8.2	(5.5–12.2)	p<0.001	14.7	0.2	(0.1–0.3)	p<0.001
Convenience/Gas	50.0	1.6	(0.6–4.4)		17.7	4.7	(1.6–14.1)	p<0.01	14.0	0.2	(0.1–0.3)	p<0.001
Small grocery	55.5	2.0	(1.3–3.1)	p<0.01	26.9	8.1	(5.0–13.2)	p<0.001	17.8	0.2	(0.1–0.5)	p<0.001
Drug store/Pharmacy	11.2	0.2	(0.1–0.8)	p<0.05	5.0	1.2	(0.2–6.0)		43.0	0.8	(0.5–1.4)	
Liquor store	72.5	4.2	(1.2–14.5)	p<0.05	4.8	1.1	(0.3–4.0)		32.7	0.5	(0.3–0.9)	p<0.05
<b>Total</b>	<b>50.9</b>				<b>15.9</b>				<b>23.2</b>			

\* Supermarkets serve as the referent category in all odds ratios. The total for each analysis varies as noted above; the ranges of sample sizes by store type for the 2 years studied are as follows: supermarket, n = 492–495; convenience, n = 676–683; convenience/gas, n = 1,200–1,216; small grocery, n = 548–555; drug store/pharmacy, n = 189–190; liquor store, n = 507–616; and other, n = 198–203. "Other" store category is included in analyses but not shown in table.

† Free items displaying alcohol company logos (e.g., floor or counter mats).

‡ Convenience placement, usually near checkout counter or exit/entrance to store.

§ Open-store shelving, not chilled.

\*\* Odds ratio.

†† Confidence interval.

**Editorial Note:** The findings in this report indicate that POP alcohol marketing is extensive in stores frequented by U.S. teenagers and young adults. POP marketing was found in >90% of stores, and 44% of stores had low-height interior alcohol advertising. Although liquor stores generally had the most aggressive POP marketing strategy, convenience stores (with or without gasoline) and small grocery stores had the most accessible alcohol products and were the most likely to sell chilled single beers in buckets. Alcohol control signage was displayed in <50% of stores, and almost no stores kept beer in locked cabinets or behind the counter.

POP marketing can increase total beer sales by as much as 17% (4) and influences consumer purchase behavior, with 70% of a buyer's purchasing choice occurring after the buyer enters the retail establishment (4). Persons aged 21–27 years are more likely to purchase beer in convenience stores and liquor stores than in supermarkets and drug stores (9), and 75% of teenagers shop at convenience or convenience/gas stores weekly (10). Therefore, aggressive POP marketing in convenience and liquor stores might influence young adults, underage persons, and adolescents disproportionately. These age groups also have the highest rates of binge drinking and alcohol-impaired driving (1). The findings in this report are subject to at least two limitations. First, the communities and

retail stores included in this study might not be representative of all communities and stores in the United States. Second, although retailer selection was random, no effort was made to ensure that the various store types were represented proportionally.

Few POP alcohol marketing guidelines exist. Given the efficacy and widespread use of POP alcohol marketing, policy makers and public health agencies should work with liquor control boards to curb sales practices that could either increase risky drinking (e.g., selling iced single beers, particularly near checkout counters, which might increase drinking and driving) or promote drinking among young adults, adolescents, and children (e.g., high-intensity or low-height advertising).

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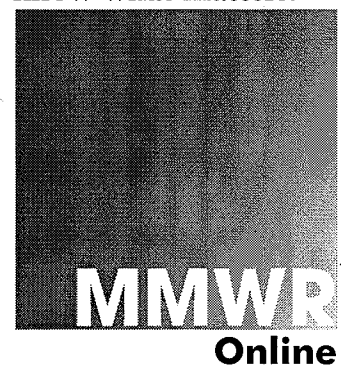
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## Update on Adverse Events Following Civilian Smallpox Vaccination — United States, 2003

During January 24–April 4, 2003, smallpox vaccine was administered to 31,297 civilian health-care and public health workers in 54 jurisdictions as part of an effort to prepare the United States for a possible terrorist attack using smallpox virus. This report updates information on all vaccine-associated adverse events among civilians vaccinated since the beginning of the smallpox vaccination program and among contacts of vaccinees, received by CDC from the Vaccine Adverse Event Reporting System (VAERS) as of April 4.

In this vaccination program, CDC, the Food and Drug Administration, and state health departments are conducting surveillance for vaccine-associated adverse events among civilian vaccinees (1). As part of the vaccination program, civilian vaccinees receive follow-up care, and reported adverse events after vaccination receive necessary medical attention. The U.S. Department of Defense is conducting surveillance for vaccine-associated adverse events among military vaccinees.

Adverse events that have been associated with smallpox vaccination are classified based upon evidence supporting the reported diagnoses. Cases verified by virologic testing are classified as confirmed. Cases are classified as probable if possible alternative etiologies are investigated and supportive information is found. Cases are classified as suspected if they have clinical features compatible with the diagnosis, but either further investigation is required or investigation of the case did not provide supporting evidence for the diagnosis and did not identify an alternative diagnosis. All reports of events that follow vaccination are accepted (i.e., events temporally associated); however, reported adverse events are not necessarily associated causally with vaccination, and some or all of these events might be coincidental.

As of April 4, seven cases of myopericarditis have been reported (Table 1). Three are new reports and were received during March 31–April 4.

### Case Reports

**Case 1.** A man aged 52 years with no history of cardiac disease or risk factors for cardiac disease was revaccinated on March 21. On March 29, he had left-side chest pain that was

**TABLE 1. Number of cases\* of selected adverse events associated with smallpox vaccination among civilians, by type — United States, January 24–April 4, 2003**

Adverse events	No. new cases (March 31–April 4)			Total no. cases (January 24–April 4)		
	Suspected <sup>†</sup>	Probable <sup>§</sup>	Confirmed <sup>  </sup>	Suspected	Probable	Confirmed
Eczema vaccinatum	—**	—	—	—	—	—
Erythema multiforme major (Stevens-Johnson syndrome)	—	—	NA <sup>††</sup>	—	—	NA
Fetal vaccinia	—	—	—	—	—	—
Generalized vaccinia	—	—	—	6	—	1
Inadvertent inoculation, nonocular	5	—	—	20	—	2
Myocarditis/pericarditis	2	1	—	3	4	—
Ocular vaccinia	—	—	—	—	—	2
Postvaccinial encephalitis or encephalomyelitis	—	—	NA	—	—	NA
Progressive vaccinia	—	—	—	—	—	—
Pyogenic infection of vaccination site	—	—	—	—	—	—

\* Under investigation or completed as of April 4, 2003; numbers and classifications of adverse events will be updated regularly in *MMWR* as more information becomes available.

<sup>†</sup> Events are classified as suspected if they have clinical features compatible with the diagnosis but either further investigation is required or additional investigation of the case did not provide supporting evidence for the diagnosis and did not identify an alternative diagnosis.

<sup>§</sup> Events are classified as probable if possible alternative etiologies are investigated and supportive information is found.

<sup>||</sup> Events are classified as confirmed if virologic tests are positive.

\*\* No cases reported.

<sup>††</sup> Not applicable.