

# Using Market Research Data to Explore Alcohol-Related Behaviors among Michigan Adults, 2011

Katy Gonzales, MPH<sup>1</sup>; Becca Coughlin, MPH<sup>1</sup>; Corinne Miller, PhD, DDS<sup>1</sup>; Jessica Volsic<sup>2</sup>; Elizabeth Traore, MPH<sup>3</sup>  
Michigan Department of Community Health<sup>1</sup>; The Nielsen Company<sup>2</sup>; Directors of Health Promotion and Education<sup>3</sup>

## Background

- Excessive alcohol consumption is responsible for an average of 79,000 deaths and 2.3 million years of potential life lost in the U.S. each year, making it the third-leading preventable cause of death in this country.<sup>1,2</sup>
- Traditional data sources (BRFSS, NSDUH) measuring adult alcohol consumption provide standard prevalence estimates, but knowledge is limited regarding alcohol type and brands of alcohol consumed, location of purchase, and how these behaviors are associated with demographic factors.
- The purpose of this study was to utilize a novel data source to explore adult consumption to determine the usefulness of applying marketing research to study health behaviors.
- Focused on Wayne County, Michigan:
  - Most populous county in Michigan (1.9 million residents) and contains largest city, Detroit (714,000 residents)<sup>3</sup>
  - Highest number of liquor licenses (~2,800)<sup>4</sup>
  - High income disparity (2006-2010 GINI index score 0.469)<sup>5</sup>

## Data Source

- Nielsen data:
  - Include more than 890,000 household records to create 66 market segments based on a multivariate demographic model taking into account income, age, household composition, and additional factors
  - Incorporate U.S. Census data and produces small area estimates by:
    - Obtaining base counts from U.S. Census and American Community Survey data.
    - Updating base counts with data from multiple sources: U.S. Postal Service active residential addresses, Nielsen Master Address File, and Valassis new housing units.<sup>6</sup>
- Households are assigned to segments based on demographic and geographic information provided by household surveys.
- Segments are used to predict purchasing and consumption behavior based on household survey data.

## Methods

- Nielsen Consumer Point Software was used to categorize segments into three groups by household income:
  - High (>\$75,000)
  - Medium (\$50,000-\$75,000)
  - Low (<\$50,000)
- Consumer Point was used to describe brand-specific alcohol consumption and purchasing behaviors for each income group.
- Alcohol retail addresses were obtained from the Michigan Liquor Control Commission.<sup>4</sup>
- Nielsen Prime Location software was used to map alcohol retail locations in Wayne County and describe demographic and purchasing information about families living within 1,000 feet (one city block) of an alcohol retailer.

## Results

Table 1. Income distribution among United States, Michigan and Wayne County residents, 2011

Geographic Location	Income Level (%)		
	High	Medium	Low
United States	21.2	33.5	42.4
Michigan	16.5	35.0	45.1
Wayne County	14.1	30.8	53.3

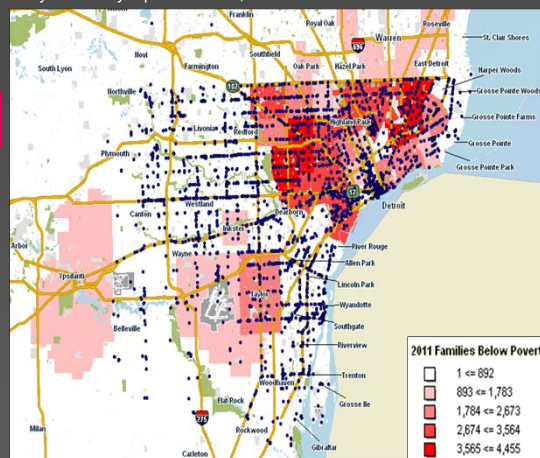
Source: Nielsen 2011

Figure 1. 1,000-foot and 1-mile radii around a specified address overlaid with distribution of families living below poverty line and locations of establishment with liquor licenses, Wayne County, 2011



Source: Nielsen 2011

Figure 2. Distribution of families living below poverty line and active Wayne County liquor licenses, 2011



Source: Nielsen 2011

Table 2. Alcohol purchase and consumption behavior by income group, Wayne County residents, 2011

Consumer Behavior	Income Level (%)		
	High	Medium	Low
<b>Location of Purchase, 6 months</b>			
<b>Wholesale Membership Club</b>			
Wine	40.5	41.3	17.9
Beer	37.1	41.3	21.3
Liquor	34.7	39.4	25.5
<b>Convenience Store</b>			
Wine	16.0	34.4	47.8
Beer	19.4	38.5	39.4
Liquor	12.8	35.7	49.0
<b>Liquor Consumption, 1 month</b>			
Ketel One Vodka	42.7	45.2	10.2
Captain Morgan Spiced Rum	22.5	52.6	22.7
Seagrams	7.0	26.1	62.6
<b>Beer Consumption, 1 week</b>			
Miller Lite Beer	25.1	41.5	32.0
Corona Extra Beer	21.1	35.8	41.0
Budweiser Beer	14.0	34.7	49.5
<b>Wine Consumption, 1 week</b>			
Clos Du Bois	40.1	36.4	23.3
Robert Mondavi	39.2	44.7	15.9
Carlo Rossi	11.0	33.2	55.5
<b>Flavored Alcoholic Beverages, 1 month</b>			
Mike's Hard Lemonade	22.1	37.8	37.8
Smirnoff Ice	12.8	28.8	55.5
Bacardi Silver	11.6	29.9	54.2

Source: Nielsen 2011

Table 3. Neighborhood characteristics of areas within 1,000 feet of alcohol retailers and Wayne County averages, 2011.

2011 Neighborhood Characteristics	Areas within 1,000 feet of alcohol retailers (Average)	Wayne County Average
Population < 18 years	25.0%	22.6%
Families below poverty	19.6%	17.9%
Families below poverty, with kids	14.8%	14.3%
Civilian labor force, unemployed	18.4%	17.4%
Alcoholic beverages consumed at home*	\$12.83	\$14.30
Alcoholic beverages consumed away from home*	\$2.15	\$2.39

\*Weekly average expenditure per household

Source: Nielsen 2011

## Results (cont.)

- A greater proportion of Wayne County and Michigan households were assigned to lower income segments than US households (Table 1).
- Among Wayne County households, those in higher income segments were more likely to purchase alcohol from a wholesale membership club, while households in lower income segments were more likely to purchase alcohol from convenience stores (Table 2).
- Lower income households were more likely to consume flavored alcoholic beverages and cheaper priced alcohol than higher income households (Table 2).
- On average, areas within 1,000 feet of an alcohol retailer contained more families and individuals living below the poverty line, under the age of 18, and unemployed than the Wayne County average (Figures 1 & 2, Table 3).
- Weekly alcohol expenditures were slightly lower among residents living in areas <1,000 feet to an alcohol retailer compared to the Wayne County average; this does not indicate volume purchased (Table 3).

## Discussion

- This analysis represents the first time marketing data has been used to supplement traditional surveillance measures and describe alcohol-related health behavior.
- These data have expanded information available on neighborhood characteristics surrounding alcohol retailers and provided new data on adult alcohol consumption, including brand-specific purchasing behavior, location, and by demographics.
- This data source will be further explored for its utility in alcohol epidemiology.

### Strengths

- Provides information not available through traditional health data sources, such as brand-specific consumption behavior.
- Data are extremely current; some measures updated quarterly
- Local information can be used for community development purposes, policy decisions and health interventions.
- Includes additional data, such as media usage and associations with other consumer behaviors (not explored in this analysis), which can be used to target interventions or educational messages or restrict alcohol marketing.

### Limitations

- Estimates derived from predictive models, not individual data.
- Data output not set up for standard statistical tests.
- Segments and estimates are based on national trends, which may not apply to local areas.
- Mapped data of locations lose visual effectiveness when illustrating large geographic areas (e.g., county level).
- Weekly expenditures do not necessarily represent volume purchased.

## References

Data license funded by a grant through DHPE.  
 1. CDC. Alcohol-attributable deaths and years of potential life lost—U.S., 2001. MMWR Morbidity and Mortality Weekly Report 2004;53(37):866–70.  
 2. Mokdad A, Marks J, Stroup D, Gerberding J. Actual causes of death in the U.S., 2000. JAMA 2004;291:1238–45.  
 3. Census Annual Estimates of the Resident Population for Counties of Michigan, http://www.census.gov/prod/2012pubs/cacbr10-18.pdf  
 4. Michigan Liquor Control Commission, http://www2.dleg.state.mi.us/list/  
 5. Household Income Inequality Within U.S. Counties, 2006–2010, http://www.census.gov/prod/2012pubs/cacbr10-18.pdf  
 6. Nielsen Demographic Update Methodology, October 2011, The Nielsen Company.