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# Efficacy and the Strength of Evidence of U.S. Alcohol Control Policies

**Toben F. Nelson, ScD**, **Ziming Xuan, ScD, SM**, **Thomas Babor, PhD**, **Robert D. Brewer, MD, MSPH**, **Frank J. Chaloupka, PhD**, **Paul Gruenewald, PhD**, **Harold Holder, PhD**, **Michael Klitzner, PhD**, **James Mosher, JD**, **Rebecca L. Ramirez, MPH**, **Robert Reynolds, MA**, **Traci L. Toomey, PhD**, and **Timothy S. Naimi, MD, MPH**

From the Division of Epidemiology and Community Health (Nelson, Toomey), University of Minnesota, Minneapolis, Minnesota; the Division of Community Health Sciences (Xuan, Naimi), Boston University School of Public Health, the Section of General Internal Medicine (Naimi), Boston Medical Center, Boston, Massachusetts; the Department of Community Medicine and Health Care (Babor), University of Connecticut School of Medicine, Farmington, Connecticut; the Alcohol Program (Brewer), National Center for Chronic Disease Prevention and Health Promotion, CDC, Atlanta, Georgia; the University of Illinois at Chicago (Chaloupka), Chicago, Illinois; the Prevention Research Center (Gruenewald, Holder), Berkeley, the Alcohol Policy Consultations (Mosher), Felton, California; the CDM Group (Klitzner), Bethesda, and the Pacific Institute for Research and Evaluation (Reynolds), Calverton, Maryland

## Abstract

**Background—**Public policy can limit alcohol consumption and its associated harms, but no direct comparison of the relative efficacy of alcohol control policies exists for the U.S.

**Purpose—**To identify alcohol control policies and develop quantitative ratings of their efficacy and strength of evidence.

**Methods—**In 2010, a Delphi panel of ten U.S. alcohol policy experts identified and rated the efficacy of alcohol control policies for reducing binge drinking and alcohol-impaired driving among both the general population and youth, and the strength of evidence informing the efficacy of each policy. The policies were nominated based on scientific evidence and potential for public health impact. Analysis was conducted in 2010–2012.

**Results—**Panelists identified and rated 47 policies. Policies limiting price received the highest ratings, with alcohol taxes receiving the highest ratings for all four outcomes. Highly rated policies for reducing binge drinking and alcohol-impaired driving in the general population were also highly rated among youth, although several policies were rated more highly for youth compared with the general population. Policy efficacy ratings for the general population and youth were positively correlated for reducing both binge drinking ($r = 0.50$) and alcohol-impaired driving ($r = 0.45$). The correlation between efficacy ratings for reducing binge drinking and alcohol-impaired driving was strong for the general population ($r = 0.88$) and for youth ($r = 0.85$). Efficacy ratings were positively correlated with strength-of-evidence ratings.



Address correspondence to: Toben F. Nelson, ScD, University of Minnesota Division of Epidemiology and Community Health, 1300 South Second Street, Suite 300, Minneapolis MN 55454. tfnelson@umn.edu.

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**Conclusions—**Comparative policy ratings can help characterize the alcohol policy environment, inform policy discussions, and identify future research needs.

## Background

Alcohol is a leading cause of morbidity, mortality, social problems and economic costs in the U.S. and worldwide.[1–7] Systematic reviews have identified a number of policies that can reduce excessive alcohol consumption and related harms,[8–10] but little is known about the relative effects of multiple policies enacted in the same jurisdiction or how multiple policies function synergistically in practice. Tools are needed to compare the relative efficacy of policies and assess the policy environment within jurisdictions. Ideally, comparative efficacy ratings would be informed by results of high-quality meta-analyses or comprehensive reviews of existing studies. However, relatively few policies are supported by this level of evidence, and some policies have not been studied at all. Further, even relatively well studied policies have rarely been assessed concurrently (i.e., directly compared with one another under the same conditions).

Comparative policy efficacy ratings, where multiple alcohol policies are assessed in relation to one another using a uniform method, have been undertaken in European countries to address gaps in scientific information on policy efficacy. One alcohol policy rating scale developed for the WHO used expert opinion to judge the relative efficacy of select policies for reducing excessive alcohol consumption.[4] In subsequent research, countries with stronger alcohol policy environments had lower per capita alcohol consumption and youth drinking.[11,12]

Related efforts looking at multiple policies have been undertaken in the U.S. Two studies examined 16 state Minimum Legal Drinking Age laws and several of these were independently associated with fewer alcohol-impaired motor vehicle fatalities among youth.[13,14] However, these laws were rated on independent scales that were not directly comparable.[14] The U.S. Community Preventive Services Task Force has systematically reviewed evidence supporting the efficacy of multiple policies using uniform methodology but these policies were not reviewed concurrently or compared directly with one another.[9,10] There have been no previous efforts to rate the relative efficacy of alcohol control policies in the U.S, or to characterize aggregate alcohol policy environments in states.

The objectives of this study were to: (1) identify effective alcohol control policies; (2) rate the relative efficacy of each policy for reducing binge drinking and alcohol-impaired driving among both youth and adult (i.e., general) populations; and (3) rate the strength of evidence for each policy (i.e., the number and quality of studies informing the policy ratings). These objectives were addressed by engaging a panel of 10 alcohol policy experts using a modified Delphi approach. This policy rating exercise is part of a larger project to assess the impact of the alcohol policy environment on drinking and related harms in the U.S.

## Methods

The Delphi method provides guidance for areas of research where scientific information is controversial, incomplete or lacks precision, in order to synthesize expert opinion.[15,16] Ten alcohol policy experts from academia, government and the private sector, and representing different areas of expertise, including law, epidemiology, psychology, sociology, economics, and community organizing, were invited to participate based on their expertise and contributions to either alcohol policy research, practice or both (Appendix A, available online at www.ajpmonline.org).

Each panelist independently nominated alcohol policies that they considered to be effective for reducing excessive drinking or related harms. Panelists focused on policies that existed, or were candidates for implementation, in the U.S. Alcohol policy was defined as: "the laws, regulations and practices used to reduce excessive alcohol consumption and related harms in a society". Policy may include the presence or absence of supporting legislation, and/or operational aspects that reflect their implementation, enforcement, or resource allocation at the state level (e.g., taxation amounts, outlet density).

A total of 48 policies were identified for efficacy and strength-of-evidence rating. For this project, policy efficacy was defined as the theoretic effectiveness of a policy, assuming that it was optimally designed and implemented. To standardize the ratings process, the investigators developed idealized descriptions of each policy for panelist voting (Appendix B, available online at www.ajpmonline.org). Using an *i*nternet-based survey, panelists independently rated the efficacy of each policy for four outcome domains: reducing binge drinking among the general population and among youth, and reducing alcohol-impaired driving among the general population and among youth. Binge drinking and alcohol-impaired driving were operationally defined as the survey questions available in the Behavioral Risk Factor Surveillance System and the Youth Risk Factor Surveillance System. For each policy, panelists also rated the quality of evidence informing their opinion of their ratings for adults and youth, respectively.

After the initial policy ratings, the panelists met to review aggregated ratings and discuss the rationale for their individual ratings. The in-person discussion was a departure from a standard Delphi method, which usually features anonymous polling and feedback. This modification was incorporated to capitalize on special expertise and experience of group members in select areas, as panelists were not equally familiar with all policies. Discussion during the in-person meeting focused on the available scientific evidence to support policy efficacy, availability of data to document policy adoption, and specific policy provisions that would improve the implementation and enforcement of the policy. Based on discussions from the in-person meeting, some policy descriptions were reworded, and two policies were combined, reducing the total to 47.

Subsequently each panelist completed a second survey to re-rate each policy for the same four outcomes (binge drinking and alcohol-impaired driving among youth and the general population) and the strength of the evidence. Panelists were encouraged to consider their previous rankings, aggregate rankings from the initial survey, and the discussion from the meeting when completing the second survey. As anticipated, the in-person meeting helped to develop consensus among the panelists as evidenced by a reduction in the mean of the variance across efficacy scores from the first to the second survey (from 0.76 to 0.42 for binge drinking in the general population and from 0.86 to 0.59 for binge drinking in the youth population). The analyses in this paper are based on data from the second survey, which was completed by all ten panelists.

## Survey and Analysis

The surveys were conducted using the web-based tool SurveyGizmo. The descriptions of each policy supplied to the panelists for rating are listed in Appendix B (available online at www.ajpmonline.org). In the survey, each policy was presented in random order to each panelist in order to control for possible order effects.

For each policy, panelists were asked to rate policy efficacy in the four domains using a 5-point Likert scale where *ineffective*= 1; *somewhat effective*=2; *effective*=3; *very effective*=4; *most effective*=5, with response options in intervals of 0.25. The strength-of-evidence response categories were *non-existent or minimal*=1; *weak*=2; *moderate*=3;

*strong*=4, with response options in intervals of 0.25. A response option of *don't know* was included for the strength-of-evidence ratings for panelists who were less familiar with the scientific evidence for any of the policies. Three panelists used the *don't know* response category on nine policies for a total of 14 times. These ratings were excluded from the analysis of policy efficacy.

Descriptive statistics for efficacy and strength-of-evidence ratings on the survey responses were computed using SAS statistical software. The distribution was examined for all policy rankings and the Pearson correlation coefficients of policies across policy domains and strength-of-evidence scores. The investigators grouped policies into four domains: pricing, physical availability, drinking and driving, and promotion or marketing. Where applicable, panelists' ratings were compared to ratings from the *Guide to Community Preventive Services* and *Alcohol: No Ordinary Commodity*.[1,9,10] Data were collected in June through August 2010 and analysis was conducted between October 2010 and May 2012.

## Results

### Policy Efficacy Ratings

Table 1 displays the efficacy and strength-of-evidence ratings for each outcome (e.g., binge drinking and alcohol-impaired driving) among general and youth populations in quartiles across all 47 policies. The average efficacy ratings of the 47 alcohol policies in four outcome domains ranged from 2.5 to 2.8, a rating between *somewhat effective* (a score of 2) and *effective* (a score of 3; Table 2). Alcohol excise taxes were rated as the most effective policy in all four groups.

The mean efficacy rating for these 47 policies was higher for binge drinking (2.7) and alcohol-impaired driving (2.8) among youth compared to binge drinking (2.5) and alcohol-impaired driving (2.5) among the general population, reflecting the youth-specific nature of some policies. Overall, the experts rated 14 policies as ≥ *effective* for reducing binge drinking among adults and 17 policies as ≥ *effective* for reducing alcohol-impaired driving among adults. In comparison, the experts rated 17 policies as ≥ *effective* for reducing binge drinking among youth and 18 policies as ≥ *effective* for reducing alcohol-impaired driving among youth.

Thirteen of the 47 polices rated were also reviewed in the *Guide to Community Preventive Services*.[9,10] Twenty of the 47 policies were reviewed in *Alcohol: No Ordinary Commodity*,[1] although days and hours of sale were considered together for that review (Table 1). The ratings provided in these two sources were generally consistent with the present ratings where they overlapped.

Despite differences in the distributions, there was a strong relationship between efficacy ratings for the general population and those for youth; in general, effective policies for adults were also rated as effective for youth (Figure 1). For example, seven of the top ten most effective policies for reducing youth binge drinking were also in the top ten policies for reducing adult binge drinking, and six of the top 10 policies for reducing youth alcohol-impaired driving were also in the top ten for adults. Policy efficacy ratings for reducing binge drinking among adults and youth were positively correlated ($r$=0.50; $p$<0.01), as were the policy ratings for reducing alcohol-impaired driving among adults and youth ($r$=0.45; $p$<0.01).

In addition, policies rated as effective for reducing binge drinking were generally rated as effective for reducing alcohol-impaired driving. Six of the ten most effective policies for reducing binge drinking among adults were also among the ten most effective policies to

reduce alcohol-impaired driving among adults. The top five most effective policies for reducing binge drinking among adults were all rated in the top 10 most effective policies for reducing alcohol-impaired driving among adults. The correlation of efficacy ratings of the 47 policies for reducing binge drinking and alcohol-impaired driving were very strong among both adults ($r$ =0.88; $p$<0.01) and youth ($r$ = 0.85; $p$<0.01; Figure 2).

Alcohol policies were grouped into four policy conceptually related policy groups: (1) pricing policies; (2) physical availability policies; (3) drinking and driving policies; and (4) promotion policies (Table 2). As a group, pricing policies received the highest efficacy ratings for all the outcome domains. Physical availability policies and drinking and driving policies were rated between *somewhat effective* and *effective* for reducing alcohol-impaired driving, although the efficacy ratings of individual policies varied. Promotion policies were rated as *somewhat effective* or *ineffective*.

## Strength-of-Evidence Ratings

The strength of evidence informing each policy was rated separately for the general population (i.e., primarily adults) and youth (Table 1). Across all policies, the average strength-of-evidence rating was between *weak* (a score of 2.0) and *moderate* (a score of 3.0) and was similar for youth and adults (an average score of 2.2 and 2.3, respectively). The strength of evidence for a number of policies was rated as weak or below (≤2.0), including 21 for the general population and 23 policies for youth. Compared with the strength-of-evidence ratings for youth, the strength-of-evidence ratings for adults had more policies with low strength-of-evidence scores but more policies rated moderate or above.

There was a moderately strong positive correlation ($r$ =0.51; $p$<0.01) between a policy's strength-of-evidence rating for the general population and that for youth. In addition, there was a very strong correlation between the strength-of-evidence ratings for adults and the efficacy ratings for both adult binge drinking ($r$ =0.70; $p$<0.01) and impaired driving ($r$ =0.82; $p$<0.01). Similarly, a strong correlation was observed between the strength-of-evidence rating for youth and efficacy ratings for youth binge drinking ($r$ =0.67; $p$<0.01) and impaired driving ($r$ =0.79; $p$<0.01).

Promising policies were defined as those with high efficacy ratings (score ≥3.0) but low strength-of–evidence ratings (score ≤2.0). For adults, promising policies included social host (civil liability) laws; having a functional and staffed alcohol beverage control infrastructure; having local authority to regulate retail alcohol availability (e.g., pre-emption laws, requiring conditional use permits); and prohibiting sales of alcohol using credit cards. For youth, promising policies included social host (civil liability) laws; house party laws for social host (criminal liability); and having a functional state alcohol beverage control infrastructure.

## Ratings Variance

The correlation between the mean efficacy ratings for each policy and the variance of the efficacy rating across panelists for that policy across all policies were assessed to investigate the hypothesis that greater consensus (i.e., lower variance) existed among more-efficacious policies ratings. Among the general population, moderate positive correlations were observed between ratings of efficacy in reducing binge drinking and variance in efficacy scores among panelists ($r$ = 0.50, $p$<0.01), as well as between ratings of efficacy in controlling alcohol-impaired driving and its variance ($r$ =0.30, $p$=0.04). No correlations were detected among the ratings for the youth population (i.e., $r$ =0.24, $p$=0.10 for binge drinking; $r$ =0.16, $p$=0.27 for alcohol-impaired driving). Among the general population, stronger evidence ratings were associated with lower variance ($r$ = −0.33, $p$=0.02), whereas among

youth there was no association between the strength of evidence and the variance of those ratings ($r$=0.14, $p$=0.35).

## Discussion

The comparative rating of state alcohol control policies described in this paper builds on prior work[1,4,6,8–14] by: (1) assessing policies specific to the U.S.; (2) examining a larger number of policies than have been examined in previous research; (3) using an expert panel with a modified Delphi approach to overcome gaps in existing research for certain policies and the relative lack of research directly comparing policies to one another; (4) rating policies using uniform and directly comparable methodology; (5) differentiating ratings by outcome (binge drinking and alcohol-impaired driving) and target population (general population and youth); and (6) assessing the strength of supporting evidence for each policy.

Overall, efficacy ratings for alcohol control policies for adults were strongly associated with those for youth, both with respect to binge drinking and alcohol-impaired driving. For example, seven of the ten most effective policies for reducing binge drinking among youth were also among the ten most effective policies for reducing binge drinking in the general population. These findings suggest that the panelists viewed youth drinking as a function of the price and availability of alcohol in states; they also reflect existing research showing that drinking among youth is strongly associated with drinking among adults at the population level,[17,18] that youth frequently obtain alcohol from adults,[19,20] and that price and physical availability of alcohol are associated with youth consumption.[21–23]

Policies rated as effective at reducing binge drinking were also considered effective for reducing alcohol-impaired driving, although policies rated highly for reducing alcohol-impaired driving did not necessarily rate highly for reducing binge drinking. These findings suggest that panelists viewed alcohol-impaired driving as a function of binge drinking. This conclusion is consistent with research demonstrating that 85% of alcohol-impaired driving episodes are reported by binge drinkers, that reductions in alcohol-impaired driving following community-based prevention appear to operate through binge drinking, and that binge drinking generally results in an impairment-level blood alcohol concentration.[24–29] Despite the strong connection between binge drinking and alcohol-impaired driving, interventions to reduce alcohol-impaired driving often focus on preventing driving among those who are already intoxicated (e.g., designated driver initiatives, ignition interlocks) or try to mitigate the harms from alcohol-impaired driving (e.g., lowering permissible alcohol limits for driving, engineering safer cars and roads).[30,31]

Among theoretically linked policy groups, alcohol price restrictions were the highest-rated policies, followed by those that limited its physical availability. State alcohol excise taxes and restrictions on wholesale and retail pricing were all rated highly for both youth and the general population, whereas policies targeting the physical availability of alcohol were rated as slightly more effective for youth than for adults. These ratings are consistent with reviews of alcohol policy efficacy for raising prices and reducing physical access.[1,9,10]

These ratings are potentially useful for public policy research and practice. Comparative efficacy ratings can be used as a research tool to measure the strength of the policy environment (i.e., the combined effects of multiple policies) and to understand the relationship between combinations of policies and alcohol-related outcomes. These methods may be applied to other health or public policy topics as well. The strength-of-evidence ratings may help identify gaps in knowledge that should be prioritized and addressed in future research. In practice, comparative efficacy ratings can help policymakers in their

deliberations about modifying, adding or removing policies. The knowledge generated from these efforts may result in improved policy approaches to important public health problems.

These findings build on prior alcohol policy reviews and were strongly influenced by published studies and prior reviews, as evidenced by the consistency between these ratings and the results of prior reviews.[1,9,10] The Delphi process[32] provided an opportunity to assess a broader range of alcohol policies, including those without a substantial base of empirical evidence, compared with prior efforts that only considered policies that were well studied. Policies that were identified as effective, but had low strength-of-evidence ratings, are promising candidates for additional research. Examples of such policies included social host laws, house party laws, and state laws that permit local authorities to regulate retail alcohol sales and availability (e.g., through the use of local zoning ordinances).[15,16,23,32–35]

### Limitations

The ratings from this project reflect the backgrounds and experiences of the panelists.[36] A different group of individuals may have produced different ratings, even with the same set of guidelines. However, the diverse backgrounds and experience of panel members provided opinions that were informed by current scientific evidence from several relevant disciplines. Further, there was generally strong agreement among panelists in the ratings assigned to policies for which the strength of evidence was judged to be strong. Most of the variability in ratings (i.e., lack of consensus) was observed among policies where evidence was limited.

The selection of policies that were considered for rating may not have been complete, and it was oriented toward those that have been implemented or considered in U.S. states. In addition, some policies judged to have limited efficacy at the population level (e.g., education-based policies) were not nominated by panelists. Another potential limitation is that they were developed based on an idealized form of the policy and assume effective enforcement. In practice, policies may be implemented with exceptions or omissions or they could be implemented but not enforced.

### Conclusion

In spite of these limitations, these ratings have several potential uses that can advance policy research and public health practice. They provide a scientific basis for creating measures of the alcohol policy environments in states and for informing discussions of alcohol control measures. Subsequent work will examine the extent to which the presence and various combinations and interactions of these alcohol policies account for state-level variations in alcohol consumption patterns and related outcomes in the U.S. These studies may inform future research about the effect on drinking behavior and related harms of the aggregate policy environment or for combinations of alcohol control policies. The procedure could also be used in international comparisons to evaluate cross-national differences in the policy environment of a country and identify potential areas for improvement.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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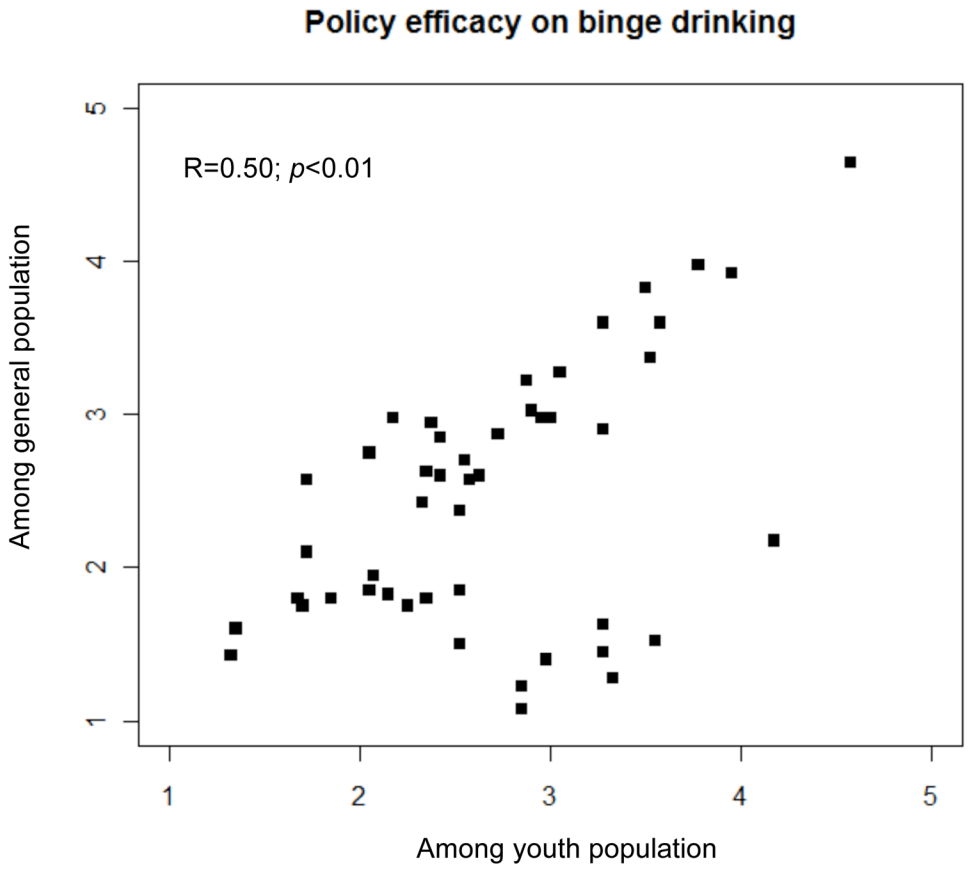


**Figure 1.**
Policy efficacy ratings for reducing binge drinking among youth and general populations

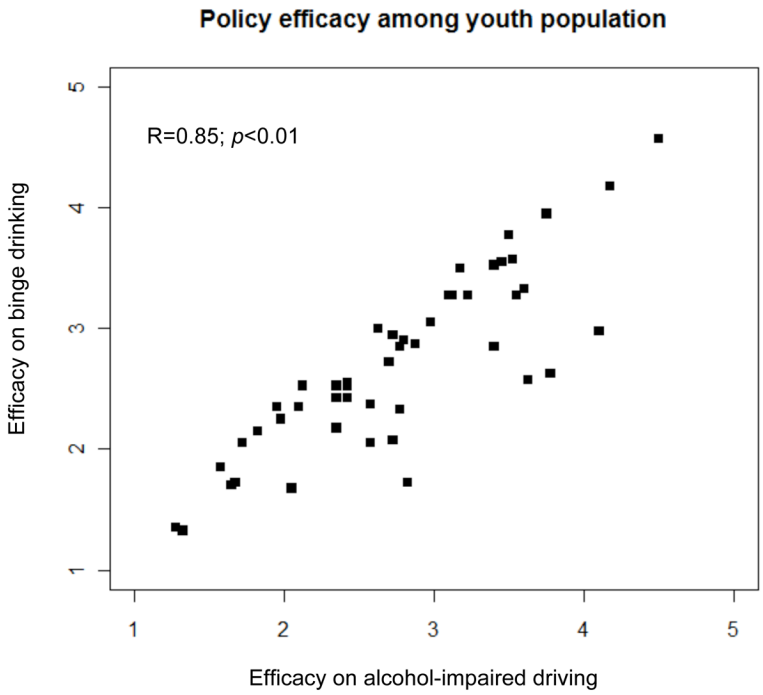


**Figure 2.**
Policy efficacy ratings for reducing binge drinking and alcohol-impaired driving among youth

**Table 1**

Efficacy and strength-of-evidence ratings among 47 alcohol policies[a]

| | General population | | | Youth population | | | | |
|---|---|---|---|---|---|---|---|---|
| **Alcohol policies** | **Binge drinking** [b] | **Alcohol impaired driving**[c] | **Strength of evidence**[b] | **Binge drinking** [b] | **Alcohol impaired driving**[b] | **Strength of evidence**[d] | **Community Guide Review (R, IE)** [d] | ***Alcohol: No Ordinary Commodity* Rating (0, +, ++, +++, ?)** [g] |
| **Alcohol excise taxes (state)** | #### | #### | S | #### | #### | S | R | +++ |
| **State alcohol control systems (monopoly)** | #### | #### | M | #### | ### | M | R[e] | ++ |
| **Bans on alcohol sales** | #### | #### | M | #### | #### | M | - | +++ |
| **Outlet density restrictions** | #### | ### | S | ### | ### | M | R | ++ |
| **Wholesale price restrictions** | #### | #### | M | #### | ### | W | - | - |
| **Retail price restrictions** | #### | ### | M | ### | ### | W | - | - |
| **ABCs present, functional, adequately staffed** | ### | ### | W | ### | ### | W | - | - |
| **Dram shop liability laws** | ### | ### | M | ### | ### | W | R | ++[h] |
| **Hours of sale restrictions** | ### | ### | M | ### | ### | W | R | ++[i] |
| **Alcohol consumption restricted in public** | ### | ### | W | ### | ### | W | - | ? |
| **Sales/service to intoxicated patrons prohibited** | ### | ### | M | ## | ## | W | IE[f] | - |
| **Local authority to regulate retail alcohol availability** | ### | ### | W | ### | ### | W | - | - |
| **Local option permissible** | ### | ### | W | ### | ### | W | - | - |
| **Lowering BAC to 0.05/*Per*** | ### | #### | S | ## | ### | W | - | +++[j] |
| **Social host laws (civil liability)** | ### | ### | W | ### | ### | W | - | - |
| **Days of sale restriction (Sunday sales)** | ### | ### | M | ### | ### | M | R | ++[i] |
| **Responsible beverage service training** | ### | ### | M | ## | ## | W | IE | 0/+ |
| **BAC 0.08/Per se laws** | ### | #### | S | ## | ### | W | R | +++[j] |
| **Public consumption laws** | ### | ### | W | ### | ## | W | - | ? |
| **Public intoxication prohibited** | ### | ## | W | ## | ## | W | - | - |
| **Sobriety checkpoints** | ### | #### | M | ### | #### | M | R | - |
| **Retail alcohol license policy** | ### | ## | NM | ## | ## | NM | - | - |
| **Administrative license revocation** | ### | #### | M | ### | #### | M | - | ++ |
| **Credit card sales of alcohol prohibited** | ### | ## | NM | ## | ## | NM | - | - |
| **Place of last drink information collection and reporting** | ## | ### | NM | ## | ### | NM | - | - |
| **Counter-marketing campaigns for alcohol** | ## | ## | W | ## | ## | NM | - | - |
| **Minimum legal drinking age laws (21 years)** | ## | ## | M | #### | #### | S | R | +++ |
| **Ignition interlock laws for DUI offenders** | ## | ### | M | ## | ### | W | R | - |
| **Open container laws, automobiles** | ## | ### | W | ## | ### | W | - | - |
| **Minimum age of server/seller** | ## | ## | W | ## | ## | W | - | - |
| **Outdoor advertising restrictions** | ## | ## | W | ## | ## | W | - | +/++[k] |
| **Direct shipment/home delivery of alcohol restricted** | ## | # | NM | ## | ## | NM | - | - |
| **Retail signage restrictions** | ## | ## | NM | ## | ## | NM | - | - |

[a]Policies in the table are sorted according to efficacy rating for reducing binge drinking in the general population.

[b]Ratings of efficacy were: Ineffective = 1.0–1.5 (#); Somewhat effective = 1.6–2.5 (##); Effective = 2.6–3.5 (###); Very effective = 3.6 + (####)

[c]Strength-of-evidence ratings were: Non-existent/minimal = 1.0–1.5 (NM); Weak = 1.6–2.5 (W); Moderate = 2.6–3.5 (M); and Strong = 3.6+ (S).

[d]The Community Guide to Preventive Services Task Force. Community Guide to Preventing Excessive Alcohol Consumption recommendations are available at: www.thecommunityguide.org/alcohol/. Ratings were Recommended (R); Insufficient evidence (IE)

[e]The Community Guide examined Privatization of Retail Alcohol Sales.

[f]The Community Guide examined Enforcement Initiatives for Overservice Laws by Law Enforcement

[g]Alcohol: No Ordinary Commodity (1) Ratings were: High degree of effectiveness (+++), Moderate effectiveness (++), Limited effectiveness (+), Lack of effectiveness (0) and Insufficient evidence (?).

[h–l]*Alcohol: No Ordinary Commodity*[1] considered: (h) server liability; (i) days of sale and hours of sale together; (j) lower BAC limits; (k) legal restrictions on marketing exposure; (l) mandatory treatment for repeat DUI offenders

BAC, blood alcohol concentration; DUI, driving under the influence; FAS, IE, insufficient evidence; M, moderate; NM, nonexistent/minimal; R, recommended; S, strong; W, weak;

**Table 2**

Ratings of alcohol control policy efficacy within four policy domains, M (SD)

| Policy Type | General population | | Youth population | |
|---|---|---|---|---|
| | Binge drinking | Alcohol-impaired driving | Binge drinking | Alcohol-impaired driving |
| **All** | 2.5 (0.9) | 2.5 (0.9) | 2.7 (0.7) | 2.8 (0.8) |
| **Pricing** | 4.0 (0.5) | 3.8 (0.6) | 3.8 (0.7) | 3.7 (1.0) |
| **Physical availability** | 2.6 (0.5) | 2.5 (0.5) | 2.9 (0.6) | 2.8 (0.6) |
| **Drinking and driving** | 2.1 (0.5) | 2.8 (0.5) | 2.4 (0.7) | 3.1 (0.9) |
| **Promotion** | 1.8 (0.3) | 1.6 (0.3) | 1.9 (0.5) | 1.7 (0.4) |

*Note:* Pricing policies include alcohol excise tax (state); wholesale price restrictions; and retail price restrictions. Physical availability policies include outlet density; minimum legal drinking age laws; keg registration laws; social host laws (civil liability); house party laws (social host, criminal liability); dram shop liability laws; minimum age of server/seller; state alcohol control systems (monopoly); false ID laws; hours of sale restrictions; days of sale restriction (Sunday sales); responsible beverage service training; restrictions on alcohol consumption in public places; events; bans on alcohol sales; sales or service to intoxicated patrons prohibited; public consumption laws; direct shipment of alcohol to consumers restricted: compliance checks (enforcement of MLDA laws); furnishing alcohol to minors prohibited; public intoxication prohibited; local authority to regulate retail alcohol availability (preemption/conditional-use permits); ABCs present; functional; adequately staffed; local option permissible; credit card sales of alcohol prohibited; and retail alcohol license policy. Drinking and driving policies include zero-tolerance laws, graduated driver license laws; administrative license revocation; use alcohol/lose license (youth); ignition interlock laws for DUI offenders; BAC 0.08/per se laws; sobriety checkpoints; open container laws; automobiles; mandatory substance abuse assessment for DUI offenders; place of last drink information collection and reporting; and lowering BAC to 0.05/per se. Promotion policies include retail signage restrictions, warning labels on alcohol products, counter-marketing campaigns for alcohol, restrictions on mass media alcohol advertising exposure, nutrition information-labels, FAS warning signs, promotional material and giveaway restrictions, and outdoor advertising restrictions.

ABC, alcohol beverage control; BAC, blood alcohol concentration; DUI, driving under the influence; FAS, fetal alcohol syndrome; MLDA, minimum legal drinking age