

Evidence gap in economic research in connection with alcohol taxation and pricing



Nigar Nargis, Ph.D.
American Cancer Society

Disclosures

None

Outline

- Evidence-based measures of alcohol control
- Alcohol taxation in the U.S.
- Evidence gaps and direction for future research

Global evidence-based measures to reduce harmful use of alcohol

Best buys: ≤I\$100 per healthy life years gained	Increase excise taxes on alcoholic beverages
	Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising
	Enact and enforce restrictions on the physical availability of retailed alcohol (reduced hours of sale)
>I\$100 per healthy life years gained	Enact and enforce drunk-driving and blood alcohol concentration limits via sobriety checkpoints
	Provide brief psychosocial intervention for persons with hazardous and harmful alcohol use
Others	Carry out regular reviews of prices in relation to level of inflation and income
	Establish minimum prices for alcohol where applicable
	Enact and enforce an appropriate minimum age for purchase or consumption of alcoholic beverages and reduce density of retail outlets
	Restrict or ban promotions of alcoholic beverages in connection with sponsorships and activities targeting young people
	Provide prevention, treatment and care for alcohol use disorders and comorbid conditions in health and social services
	Provide consumers with information, including labels and health warnings, about content of alcoholic beverages and the harms associated with alcohol consumption

Reducing affordability through alcohol taxation and pricing

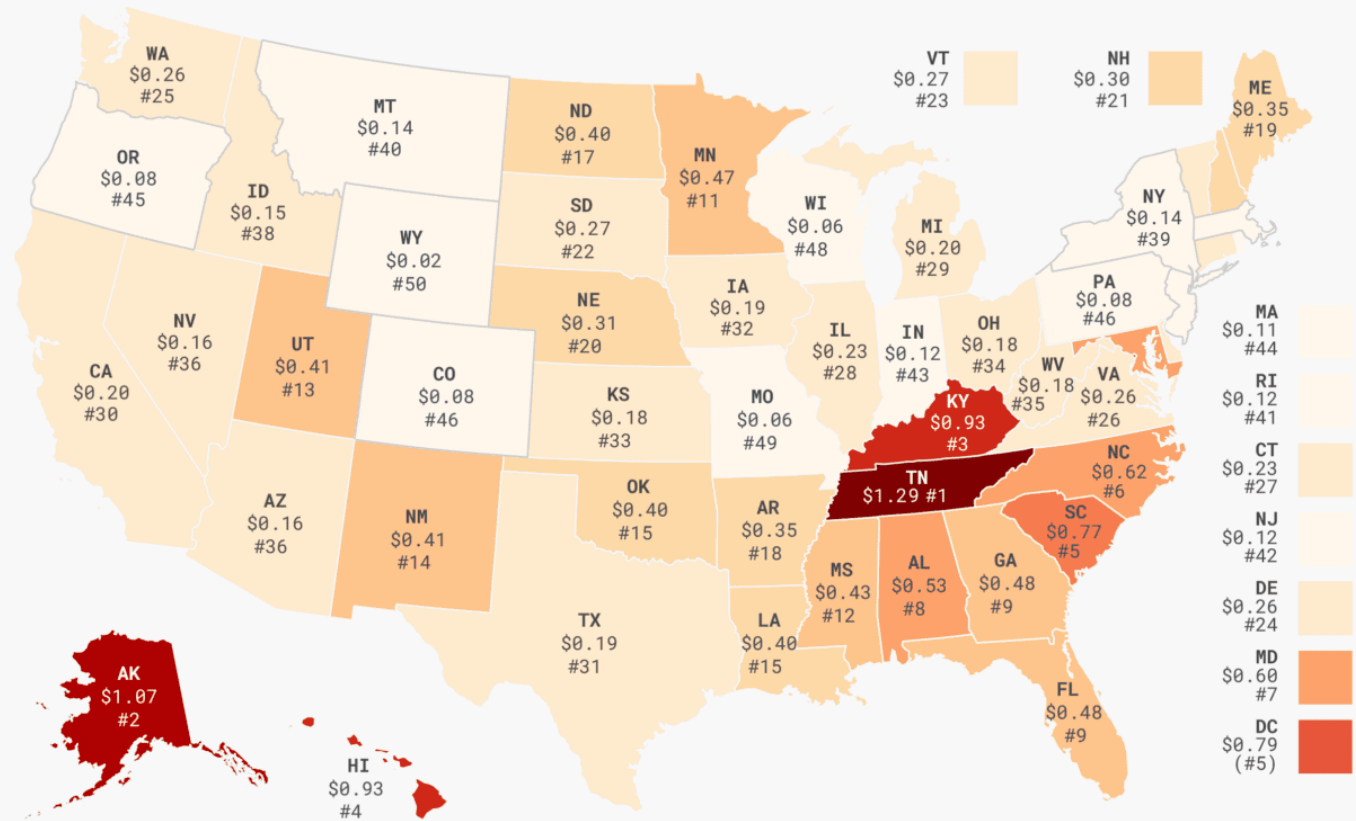
- Impose alcoholic beverage-specific tax
- Increase tax to increase alcohol price
- Minimum floor pricing
- Health tax to create health promotion fund
- Ban on discounts, promotions, coupons
- Excise duty stamps
- Regional harmonization of tax systems

Alcohol taxation in the United States

- Federal tax per ounce of pure alcoholic content (per standard drink)
 - Beer: 9 cents (5 cents per 12-ounce can or bottle)
 - Wine: 6 cents (4 cents per 5-ounce glass)
 - Spirits: 21 cents (13 cents per 1.5-ounce shot)
- State tax
 - All 50 states and the District of Columbia tax fermented malt beverages
 - Wine is taxed at a higher rate than beer but at a lower rate than distilled spirits
 - Most states apply much higher tax rates to distilled spirits.
 - States also levy special fees and taxes on spirits, including case and bottle fees, special sales taxes on spirits (separate from, and in addition to, the excise tax), wholesale taxes, and retail and distributor license fees.

State Beer Excise Tax Rates

Dollars per Gallon, 2023



Note: Figures are rounded to the nearest cent, but ranks reflect unrounded figures. Rates are those applicable to off-premise sales of 4.7% alcohol by volume (a.b.v.) beer in 12-ounce containers which have been imported from outside the state. At the federal level, beer is subject to differing tax rates. Small domestic brewers are taxed between \$0.11/gallon and \$0.516/gallon. All other brewers are taxed at rates between \$0.516/gallon and \$0.58/gallon. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included. Different rates are also applicable in FL, GA, HI, ID, IA, KS, MN, NC, ND, OH, OK, TX, UT, VA, WA, and WI according to alcohol content, place of production, size of container, or place purchased (on- or off-premise or onboard airlines). Rates include the statewide local rates in AL (\$0.52/gallon) and GA (\$0.53/gallon). They include sales taxes specific to alcoholic beverages in AR, MD, MN, and D.C. Rates in AR and RI include case fees and/or bottle fees which may vary with the size of container. Rates include the wholesale rate in Kentucky (10%) and Tennessee (\$35.60/barrel), converted into a gallonage excise tax rate.

Sources: Distilled Spirits Council of the United States; Alcohol and Tobacco Tax and Trade Bureau; state revenue departments.

State Beer Excise Tax Rates (Dollars per Gallon)

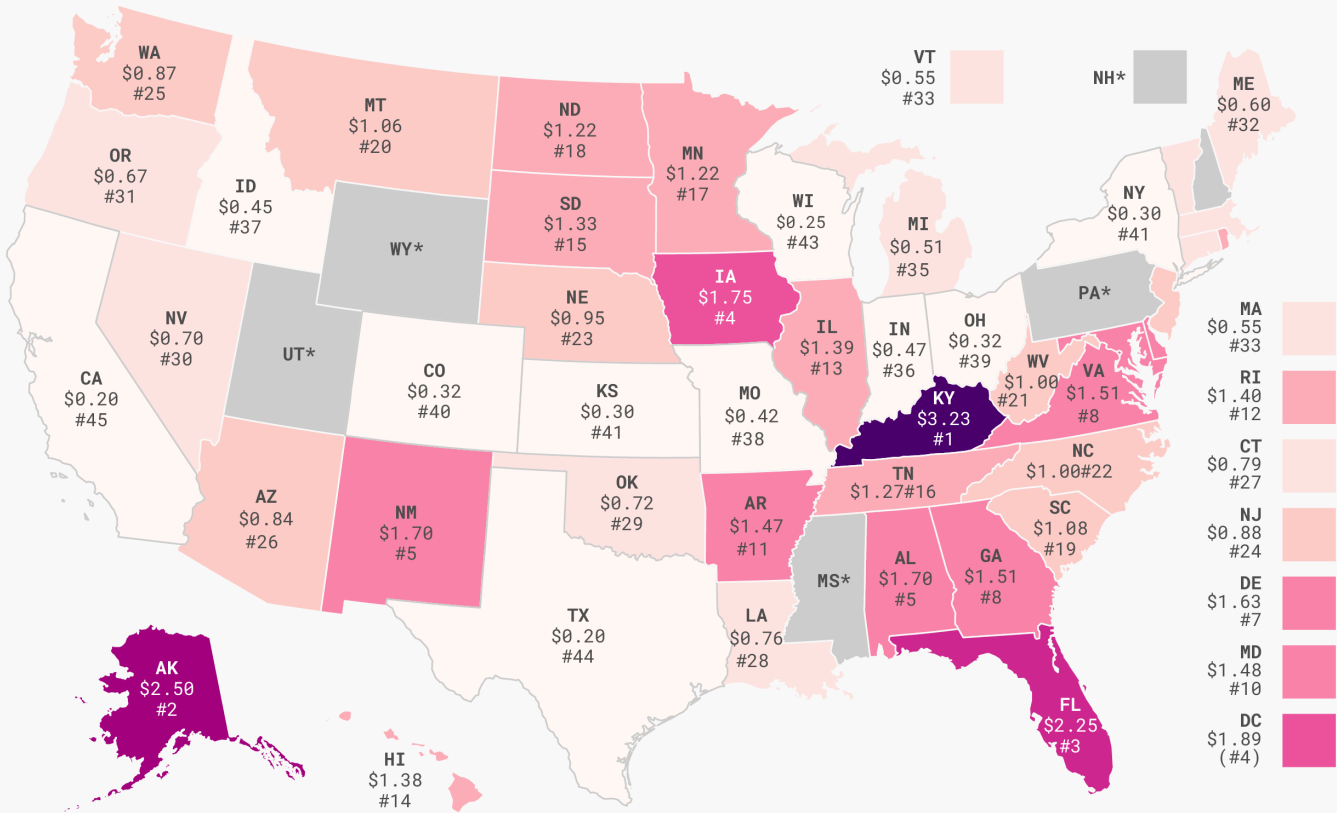


Lower

Higher

State Wine Excise Taxes

Dollars per Gallon, 2021



Note: Rates are those applicable to off-premise sales of 11% alcohol by volume (a.b.v.) non-carbonated wine in 750ml containers. Federal rates vary by alcohol content and type of wine, ranging up to \$3.15 for 21-24 percent alcohol and \$3.40 for sparkling wine. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included.

AL, AZ, CA, CO, CT, FL, GA, HI, ID, IL, IN, IA, KS, LA, ME, MA, MI, MS, MT, NE, NV, NH, NM, NC, ND, OH, OK, OR, RI, SC, SD, TX, VT, VA, WA, WV, WI, DC: Different rates also applicable to alcohol content, place of production, size of container, place purchased (on- or off-premise or on board airlines) or type of wine (carbonated, vermouth, etc.)

*MS, NH, PA, UT, WY: Control states, where the government controls all sales. Products can be subject to ad valorem mark-up as well as excise taxes.

KY: Rates include wholesale tax rate of 10%, converted to a gallonage excise tax rate.

AR, MN, TN: Rates include case fees and/or bottle fees which may vary with size of container.

AR, MD, MN, SD, DC: Rates include sales taxes specific to alcoholic beverages.

Sources: Distilled Spirits Council of the United States; Alcohol Tax and Trade Bureau.

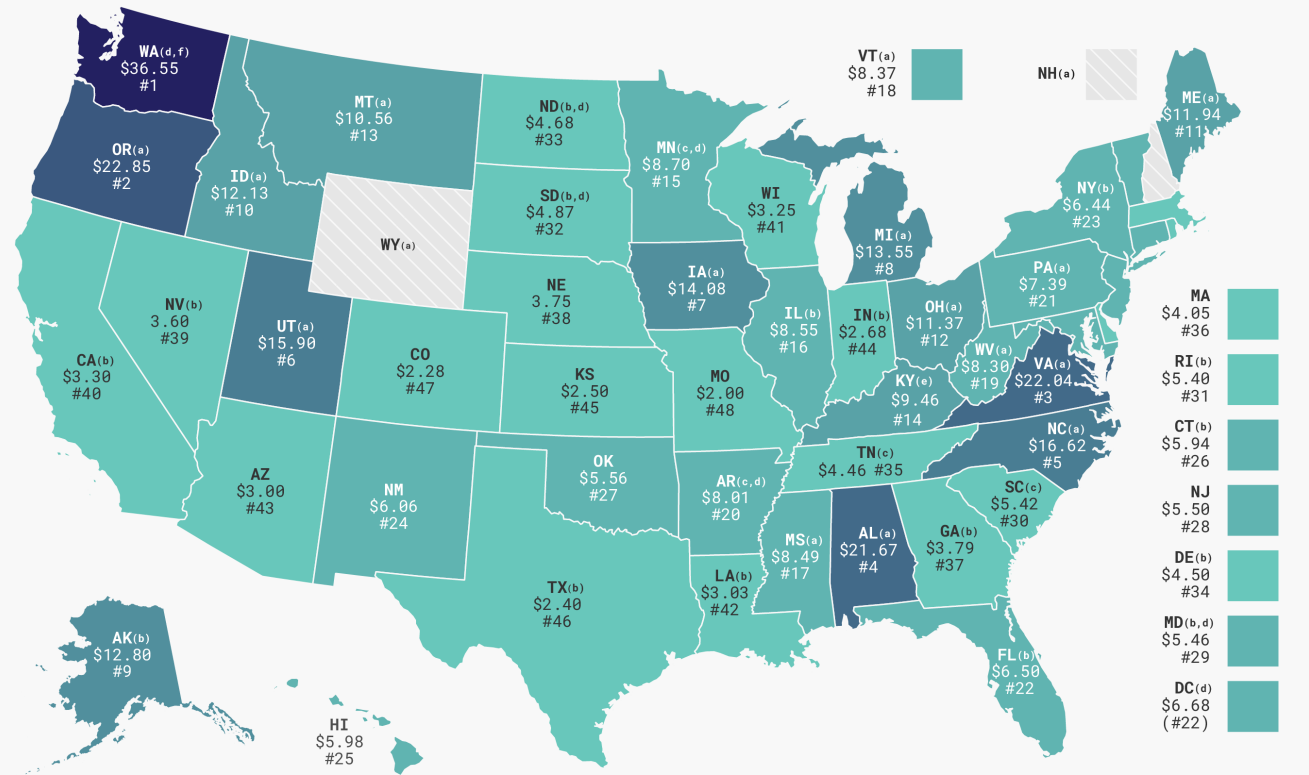
State Wine Excise Taxes (Dollars per Gallon)



Lower Higher

State Distilled Spirits Excise Tax Rates

Dollars per Gallon, 2024



(a) Control states, where the government controls all sales. Products can be subject to ad valorem mark-up as well as excise taxes.

(b) Different rates also applicable according to alcohol content, place of production, size of container, or place purchased (on- or off-premise or on board airlines).

(c) Includes case fees and/or bottle fees which may vary with size of container.

(d) Includes sales taxes specific to alcoholic beverages.

(e) Includes the wholesale tax rate of 11, converted to a gallonage excise tax rate

(f) Includes the retail (17) and distributor (5/10) license fees, converted into a gallonage excise tax rate.

Note: Rates are those applicable to off-premise sales of 40 alcohol by volume (a.b.v.) distilled spirits in 750ml containers. At the federal level, spirits are subject to a tiered tax system. Federal rates are \$2.70 per proof gallon on the first 100,000 gallons per calendar year, \$13.34/proof gallon for more than 100,000 gallons but less than 22.23 million and \$13.50/proof gallon for more than 22.23 million gallons. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included.

Sources: Distilled Spirits Council of the United States; Alcohol and Tobacco Tax and Trade Bureau.

State Distilled Spirits Excise Tax Rates (Dollars per Gallon)



Lower

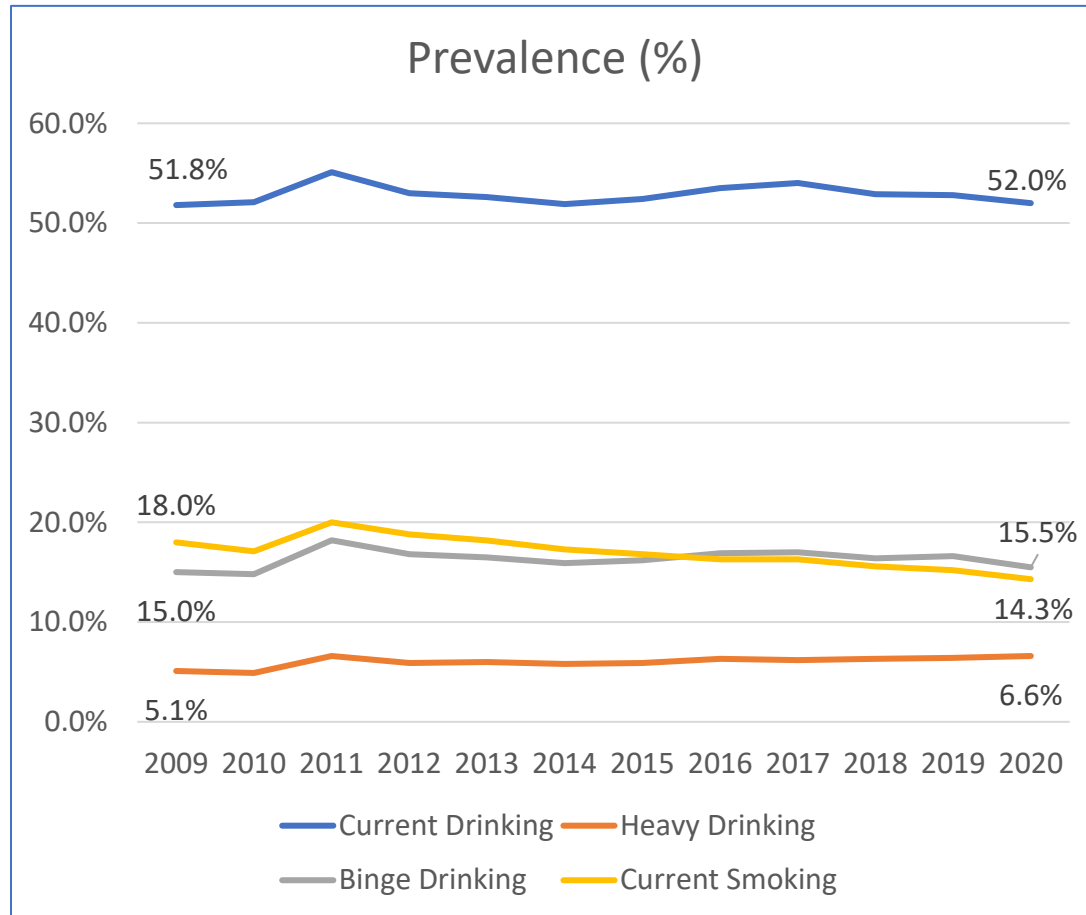
Higher



How far is the US alcohol tax system from a desirable state?

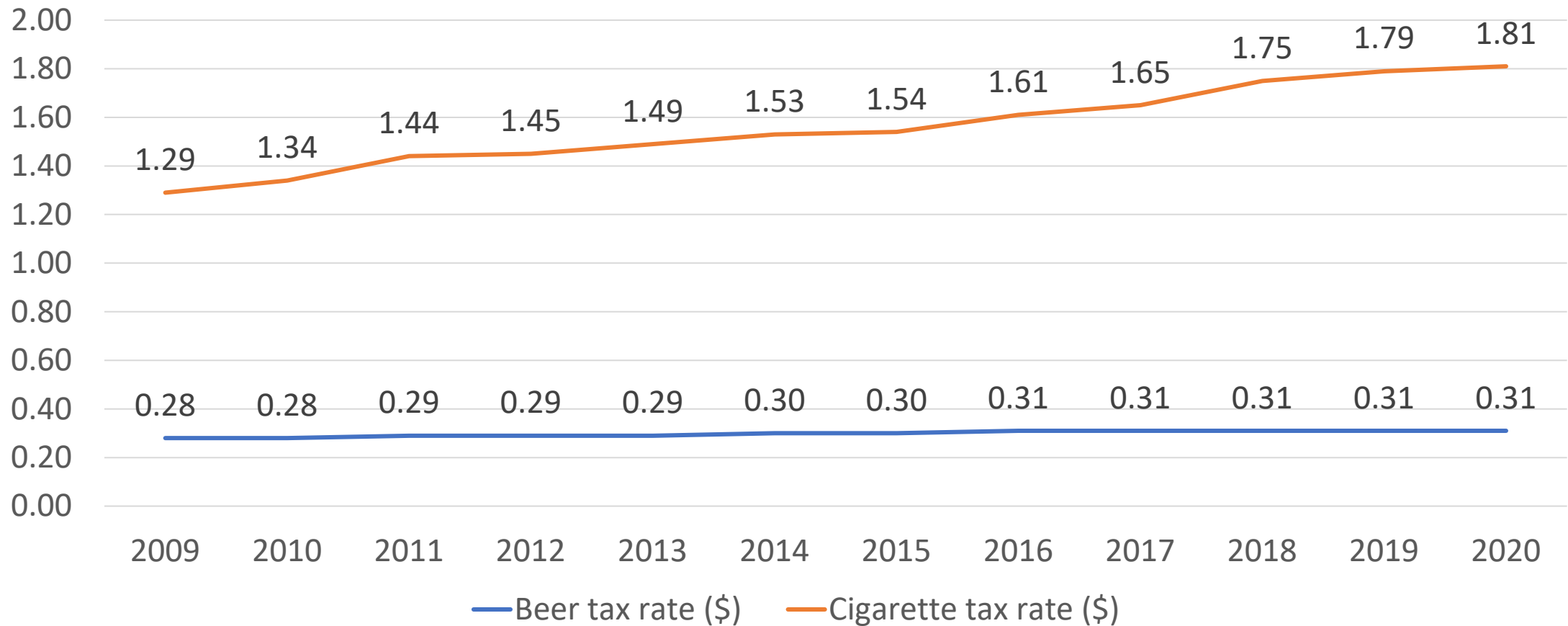
- An optimal tax rate is estimated at \$1.34 per ounce of pure alcohol. Current federal, state and local taxes combined is around 25 cents.
(<https://crsreports.congress.gov/product/pdf/R/R48181>)
- Alcohol tax increase is not always motivated by the health objective to reduce alcohol consumption.
- Complexity of differential alcohol tax structure incentivizes product switching by consumers and manipulation of product categorization by producers.
(<https://taxfoundation.org/research/all/federal/alcohol-tax-modernization-abv-tax/>)
- Alcohol taxes are not adjusted for inflation annually.
- The volume of alcohol is not taxed directly and consistently across beverage types.

Alcohol use and cigarette smoking in US population, 2009–2020



Source: Mostofsky E, Buring JE, Mukamal KJ. Beer taxes associate with lower alcohol and cigarette use; cigarette taxes associate with lower cigarette but higher alcohol use. The American Journal of Drug and Alcohol Abuse. 2024; 50(3): 382-390.

Average United States statewide taxes in dollars per gallon of beer or dollars per pack of cigarettes



Source: Mostofsky E, Buring JE, Mukamal KJ. Beer taxes associate with lower alcohol and cigarette use; cigarette taxes associate with lower cigarette but higher alcohol use. The American Journal of Drug and Alcohol Abuse. 2024; 50(3): 382-390.

Most frequently asked research questions to inform tax policymaking

- I. Effect on demand: Does tax increase lead more people to quit or cut back consumption?
- II. Tax pass-through: How do firms respond to tax increases in the pricing strategies?
- III. Health impacts: live saved, healthy life-years gained
- IV. Economic impacts: Saving health care expenses, productivity gain, revenue gain, employment impact
- V. Industry interference: How do we counter industry arguments against tax increases?

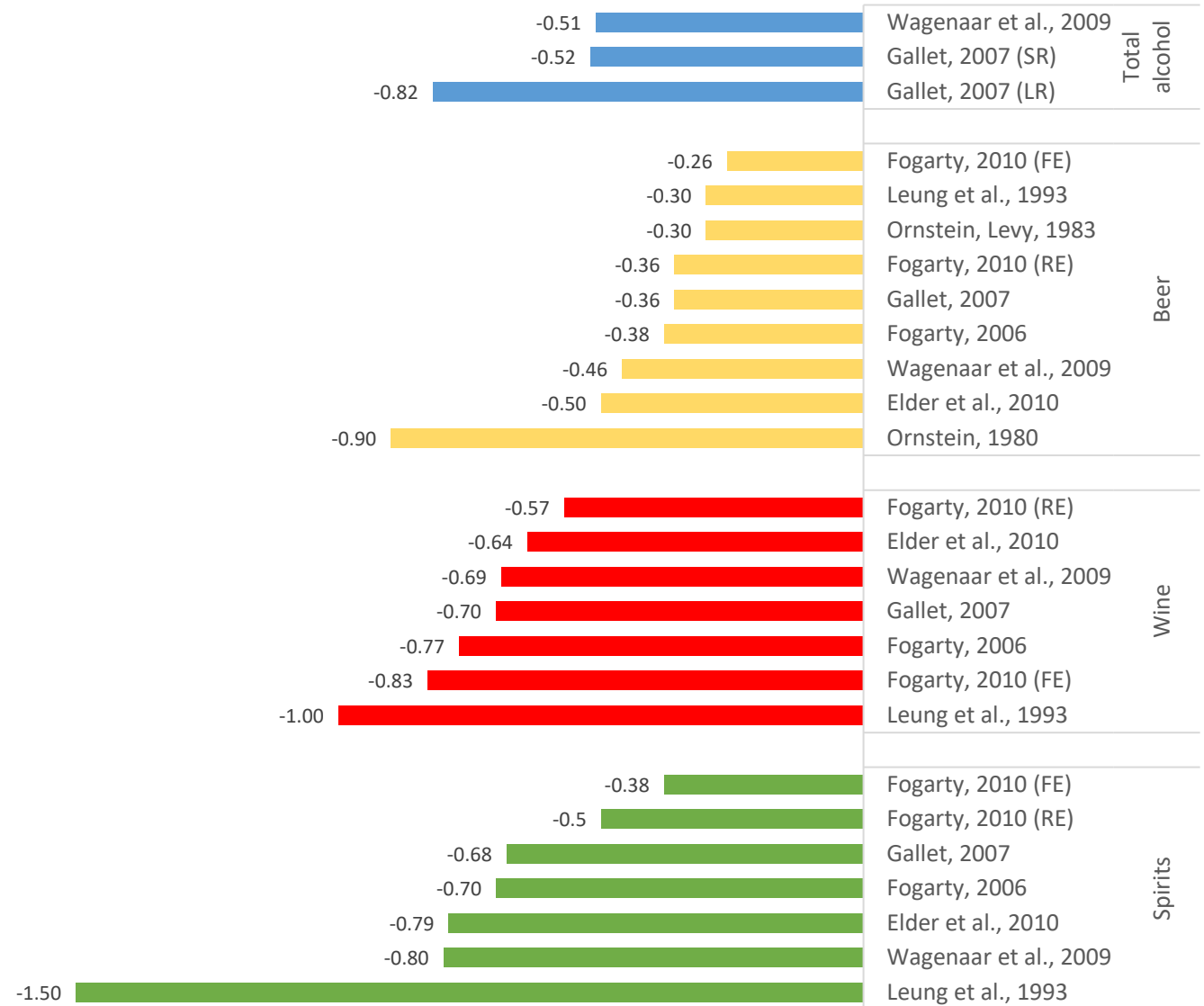
I. Current evidence: Effect on demand

“In some relevant research areas, the evidence is not yet as rich for alcohol taxation (as for tobacco taxation), but it is steadily growing for it, too. The existing evidence shows unequivocal patterns very similar to that of tobacco. Alcohol is also a consistently inelastic good at roughly the same level as tobacco, which means that price increases have considerable negative effects on consumption while raising tax revenues. These patterns are consistent across regions and country income group, suggesting strongly that alcohol excise taxation is an outstanding public health strategy globally.”

Using Fiscal Policy to Promote Health: A Five-Year Update on Taxing Tobacco, Alcohol and Sugar-Sweetened Beverages. Background paper prepared for the Task Force on Fiscal Policy for Health, 2024, by Jeffrey Drope and Lisa M. Powell.

Evidence gaps: Effect of alcohol price increases on alcohol consumption

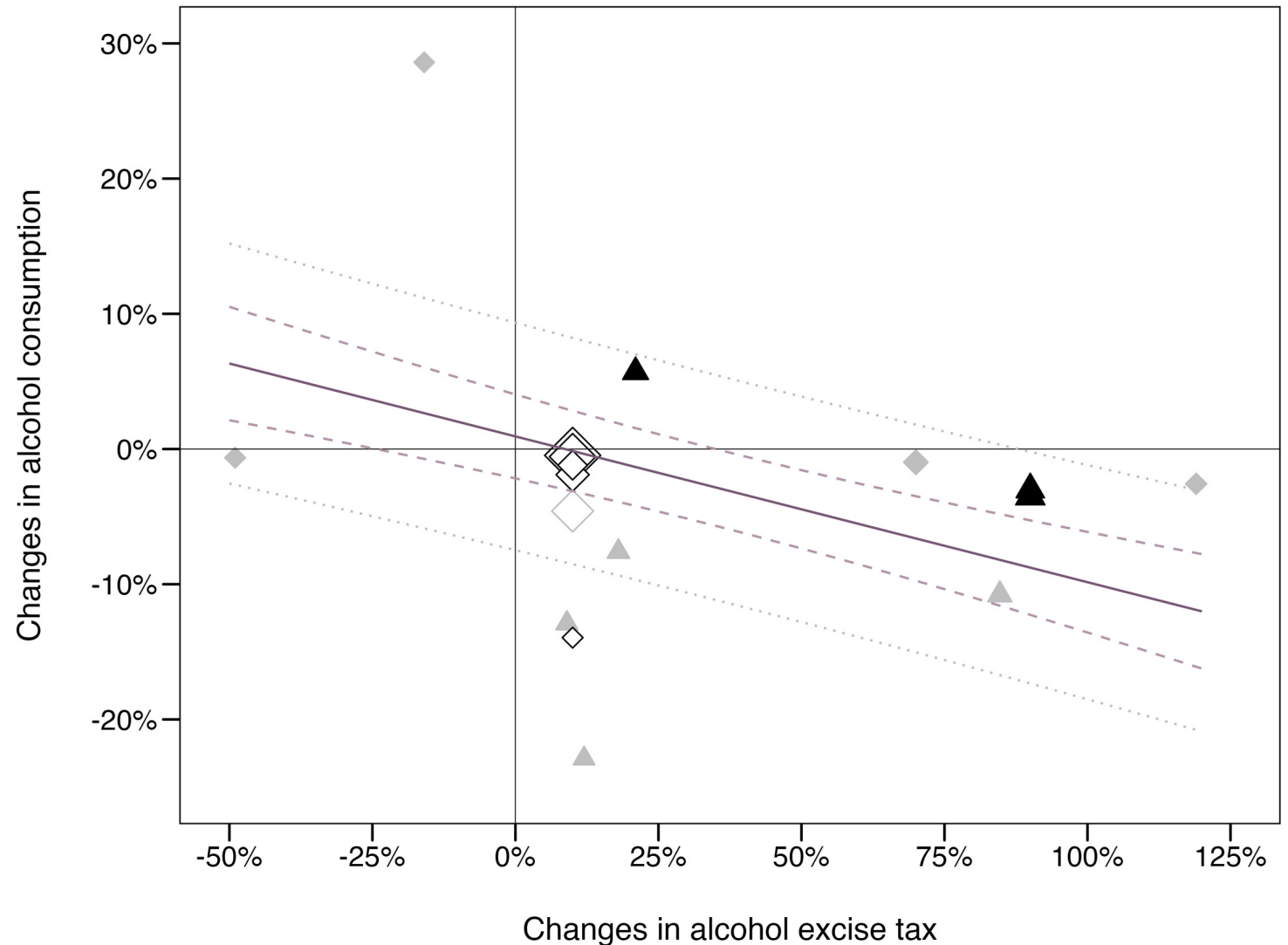
- Studies are mostly from high-income countries and dated
- Estimates largely indistinguishable among low, moderate and heavy use
- No estimates available for switching to substitutable products
- No evidence of transition behavior (e.g., heavy to moderate use)



Source: Guindon GE, Zhao K, Fatima T, Garasia S, Quinn N, Baskerville NB, Paraje G. Prices, taxes and alcohol use: a systematic umbrella review. *Addiction*. 2022; 117(12):3004-3023.

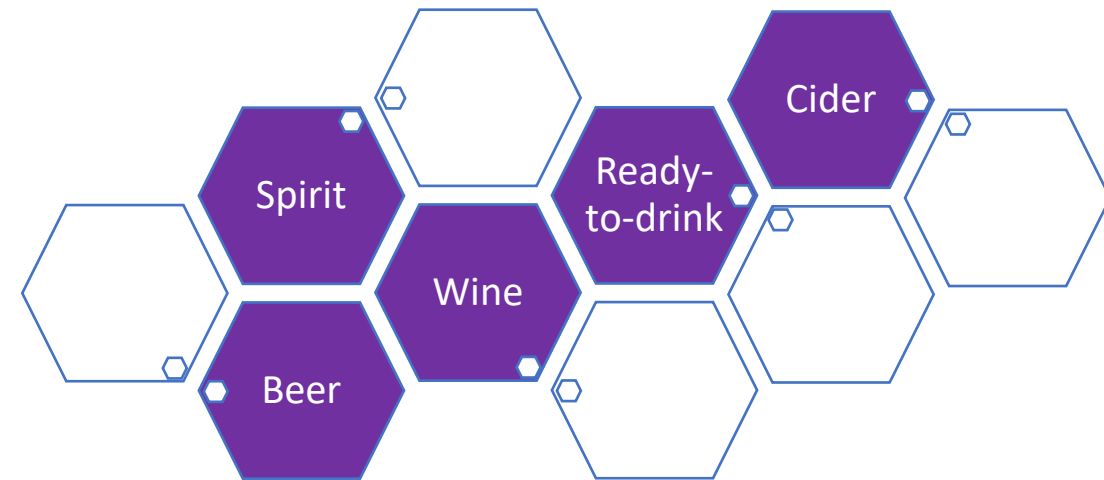
Evidence gaps: Effect of alcohol excise taxes on alcohol consumption

- “Research is needed on the differential impact of alcohol policies, particularly for groups bearing a disproportionate alcohol-attributable health burden.”
- Limited evidence of differential impact on low-income alcohol users.
- Inconclusive evidence on differential impact across gender and race/ethnicity.
- No evidence of differential impact for education or occupational status.



Source: Kilian C, Lemp JM, Llamosas-Falcon L, Carr T, Ye Y, Kerr WC, Mulia N, Puka K, Lasserre AM, Bright S, Rehm J, Probst C. Reducing alcohol use through alcohol control policies in the general population and population subgroups: a systematic review and meta-analysis. *eClinicalMedicine* 2023;59: 101996.

Evidence gap: Cross-beverage tax policy effects

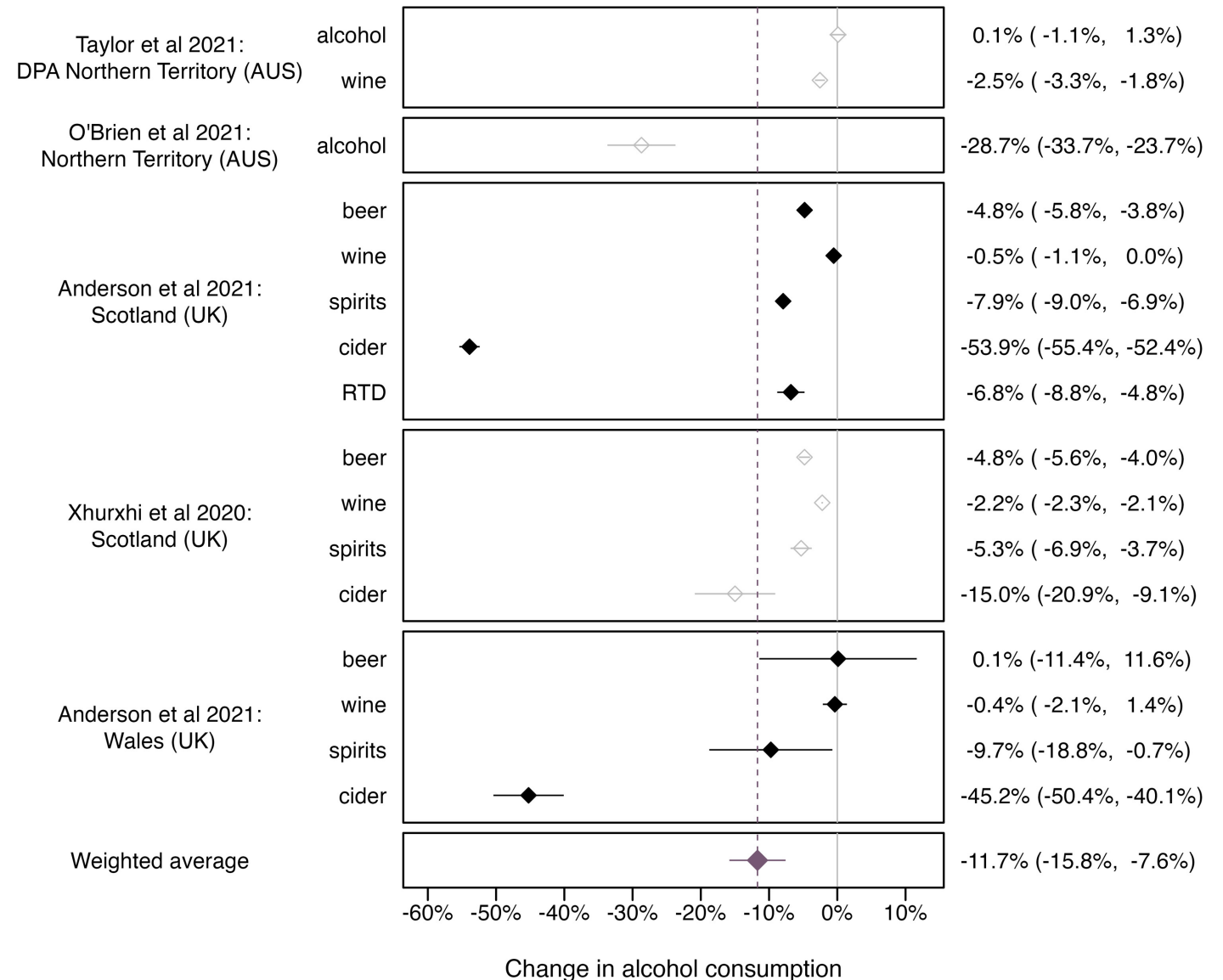


- There is a risk that some drinkers may shift their consumption to other alcoholic beverages, if taxes are not raised proportionately for all alcoholic beverages.
- The marginal beer tax increase in Illinois in 2009, compared to the much higher tax increases on wine and spirits, led to a rise in beer sales by 5.5%.
- More research is needed to evaluate the net effect on population health considering these offsetting changes in alcohol consumption.

Source: Kilian C, Lemp JM, Llamosas-Falcon L, Carr T, Ye Y, Kerr WC, Mulia N, Puka K, Lasserre AM, Bright S, Rehm J, Probst C. Reducing alcohol use through alcohol control policies in the general population and population subgroups: a systematic review and meta-analysis. *eClinicalMedicine* 2023;59: 101996.

Evidence gap: Effectiveness of minimum unit pricing

- Within a year post intervention, average alcohol consumption decreased by 11.7%.
- Inconsistent evidence by sociodemographic characteristics.
- No evidence available from the U.S.



Source: Kilian C, Lemp JM, Llamosas-Falcon L, Carr T, Ye Y, Kerr WC, Mulia N, Puka K, Lasserre AM, Bright S, Rehm J, Probst C. Reducing alcohol use through alcohol control policies in the general population and population subgroups: a systematic review and meta-analysis. eClinicalMedicine 2023;59: 101996.

Evidence gap: Cross-tax policy effects of alcohol and tobacco

- Beer taxes are associated with both lower alcohol intake and cigarette smoking.
- Cigarette taxes are associated with lower cigarette smoking but not the typically co-occurring behavior of alcohol intake.
- Evidence of cross-tax policy effects of alcohol and other tobacco products is non-existent.

Source: Mostofsky E, Buring JE, Mukamal KJ. Beer taxes associate with lower alcohol and cigarette use; cigarette taxes associate with lower cigarette but higher alcohol use. The American Journal of Drug and Alcohol Abuse. 2024; 50(3): 382-390.

II. Evidence gap: Tax pass-through

- Overall, there is consistent evidence to suggest that alcohol excise tax increases are usually passed forward to consumers through higher prices and are not borne by the alcoholic beverage manufacturers or importers.
- Further breakdown in this analysis is needed to understand
 - How the tax pass-through varies for different alcoholic beverage types and product characteristics.
 - Whether higher-risk drinkers are being targeted by the industry through price discrimination between different groups of customers.

III. Evidence gaps: Health impacts

- Ex-post analysis consistently suggests that alcohol excise tax increases have a large impact in reducing all-cause mortality, and all-cause mortality inequalities in men.
- Modelling studies estimated decreases in number of cancer cases and deaths attributable to alcohol excise tax increases.
- These evidence are limited to European countries.
- As alcohol taxes are rarely increased for public health reason in the U.S., the scope of ex-post analysis is very limited. More modelling studies based on recent data are necessary.

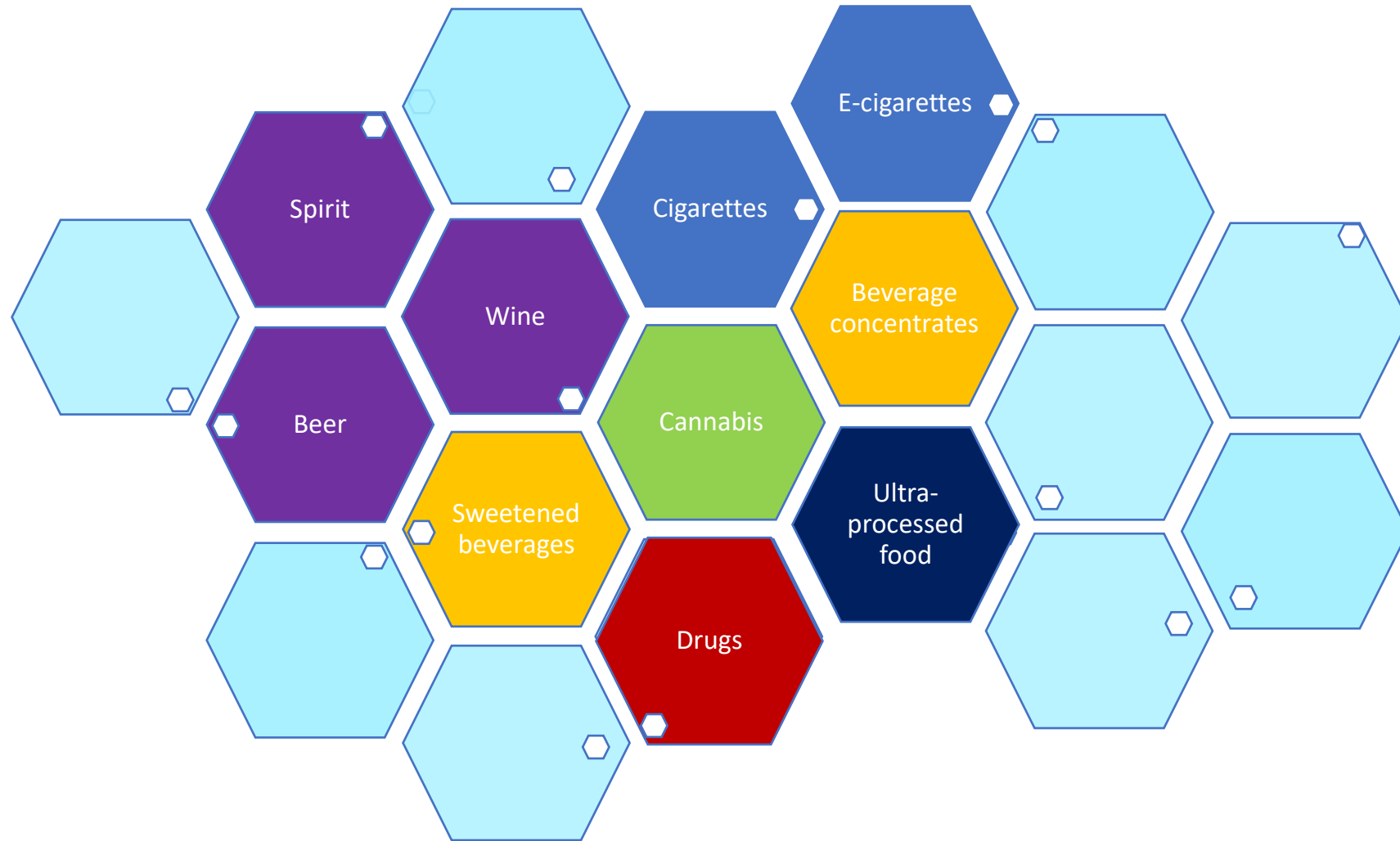
V. Evidence gaps: Economic impacts

- Evidence is sparse or non-existent
 - Gain in individual or household income due to improvement in health status from reduction in alcohol consumption
 - Savings in health care expenses
 - Increase in government revenue
 - Changes in employment

V. Evidence gaps: Countering industry arguments against tax increases

- Tax evasion
 - **Unrecorded alcohol, illicit trade**
- Tax avoidance
 - **Cross-border shopping**
- Equity
 - **Regressivity of taxation**
- Inflationary pressure
 - **Role of alcohol price increase in the Consumer Price Index**
- Job loss in alcohol or dependent sector

Emerging concerns: Nexus of substance and unhealthy food and beverage industries



Conclusions

- There is sufficient evidence to suggest that alcohol tax increases can effectively reduce alcohol consumption.
- But there is still enormous gap in the evidence base needed to support alcohol tax increases and reform of the alcohol tax system.
- Product innovation and diversification have complicated the landscape of different substances and unhealthy commodities demanding continuous market surveillance research critically needed to inform timely regulatory decisions.

Thank you

nigar.nargis@cancer.org