

Importance of controls on alcohol outlets to reduce harm

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Background

- Alcoholic beverages, and the problems they engender, have been familiar fixtures in human societies since the beginning of recorded history
- Drinking alcohol is widely socially accepted and associated with relaxation and pleasure, and some people drink alcohol without experiencing harmful effects.
- However, a growing number of people experience physical, social and psychological harmful effects of alcohol.



Significance

- Alcohol use is one of the leading causes of death and years of potential life lost worldwide.
- The harmful use of alcohol is a causal factor in more than 200 disease and injury conditions.
- Worldwide, 3 million deaths every year result from harmful use of alcohol. This represents 5.3% of all deaths.
- Overall, 5.1% of the global burden of disease and injury is attributable to alcohol, as measured in disability-adjusted life years (DALYs).
- Beyond health consequences, the harmful use of alcohol brings significant social and economic losses to individuals and society at large.
- Alcohol consumption causes death and disability relatively early in life. In people aged 20–39 years, approximately 13.5% of total deaths are attributable to alcohol.
- There is a causal relationship between harmful use of alcohol and a range of mental and behavioral disorders, other noncommunicable conditions and injuries.

Use and Harm

- Risk of developing cancer increases in a linear way. Alcoholic liver disease the risk is curvilinear. Modest beneficial effect for cardiovascular diseases has been reported.
- Alcohol is a psychoactive substance: Presents consequences in young people due to a higher level of vulnerability. Heavy drinking in adolescence can affect brain development and has a higher risk of organ damage in the developing body. A given amount of alcohol will also be more harmful in women compared with men due to differences in body mass and composition.
- Mental health challenges: Depression, anxiety, drug misuse, nicotine dependence and self-harm are commonly associated with excessive alcohol consumption. Up to 41% of suicides are attributable to alcohol and 23% of people who engage in deliberate self-harm are alcohol dependent.
- Social implications: Relationship breakdown, domestic violence and poor parenting, including child neglect and abuse. Absenteeism, accidents in the workplace and decline in work performance. Alcohol availability has been directly associated with alcohol misuse and alcohol-related problems including medical harms, injury, crime, and violence.

Methodology

For Grenada, The physical area of Grenada was modelled as a grid, which was divided into 7 units representing parishes on the island.

- These units were scaled to approximate the size and population distribution.
- On-premise alcohol outlets (e.g., bars and restaurants) and off-premise alcohol outlets (e.g., rum shops) were assessed to approximate the density in each parish.
- Outlet density was determined by the number of active liquor licenses in each neighborhood in 2022, which we gathered from the Inland Revenue Division, Gov of Grenada.
- Agents' baseline drinking statuses were then determined based on distributors sales.
- The violence model was formalized from public health records from A&E/hospitals/health centers and police records of MVA, crime, violence.

A systematic review of interventional and simulated studies and theory on assortative drinking model was conducted to assess the impact of policies and programs on the impact of controlling alcohol misuse and harm.

- *Studies directly assessing the control of outlet density as a means of controlling excessive alcohol consumption and related harms were assessed.*

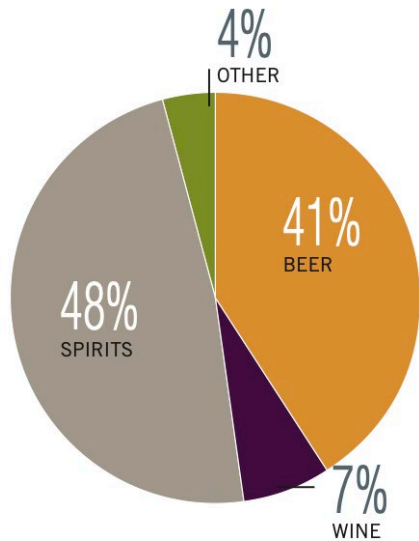
Results: Grenada parish distribution of alcohol outlet density, consumption, health and harm outcomes

	Outlet Density/1000	Consumption/Liters/capita	Healthcare cases	Police reports
Carriacou	8	8.8	17	16
St. Andrew	83	10.3	71	121
St. David	21	7.9	23	34
St. George	123	14.3	107	244
St. John	43	11.4	54	47
St. Mark	18	7.6	18	22
St. Patrick	34	9.3	43	26

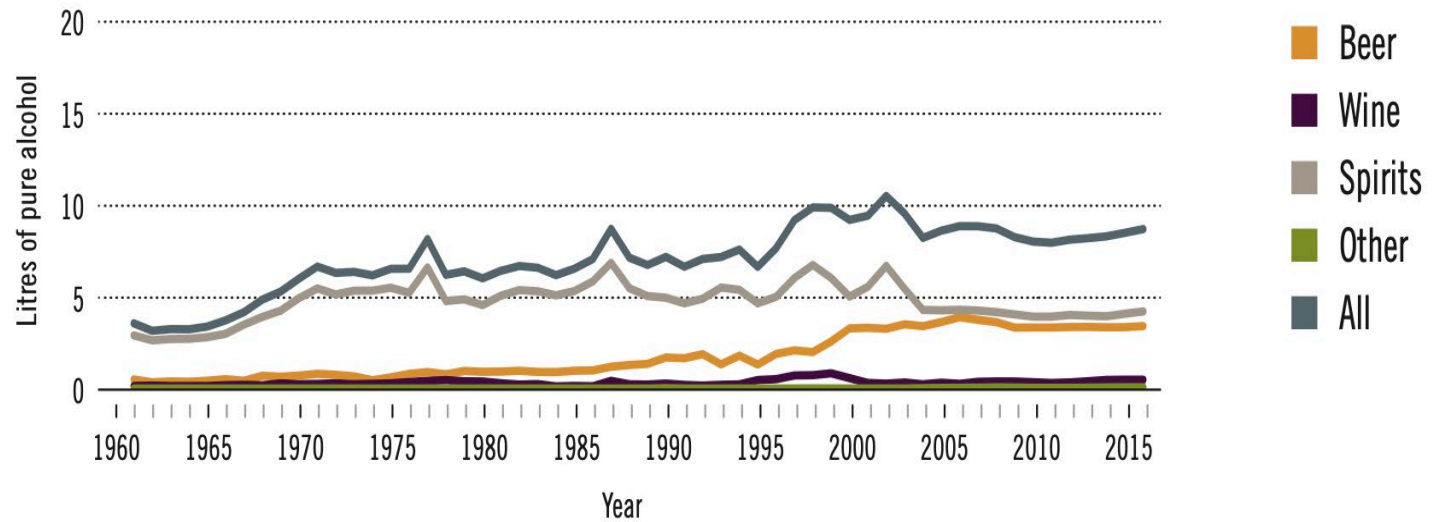
Results

- Alcohol Consumption

Recorded alcohol per capita (15+) consumption (in litres of pure alcohol) by type of alcoholic beverage, 2016 or latest year available



Recorded alcohol per capita (15+) consumption, 1961–2016



Results

- Alcohol Harm

Prevalence of alcohol use disorders and alcohol dependence (%), 2016*

	Alcohol use disorders**	Alcohol dependence
Males	9.6	3.9
Females	3.6	1.8
Both sexes	6.6	2.8
WHO Region of the Americas	8.2	4.1

* 12-month prevalence estimates (15+); **including alcohol dependence and harmful use of alcohol.

Age-standardized death rates (ASDR) and alcohol-attributable fractions (AAF), 2016

	ASDR*		AAF (%)		AAD** (Number)
Liver cirrhosis, males / females	20.1	6.1	71.6	43.7	6
Road traffic injuries, males / females	16.7	2.3	42.9	25.8	3
Cancer, males / females	261.9	169.1	8.0	2.6	9

*Per 100 000 population (15+); **alcohol-attributable deaths, both sexes.

Years of life lost (YLL) score*, 2016

LEAST < 1 2 3 4 5 > MOST

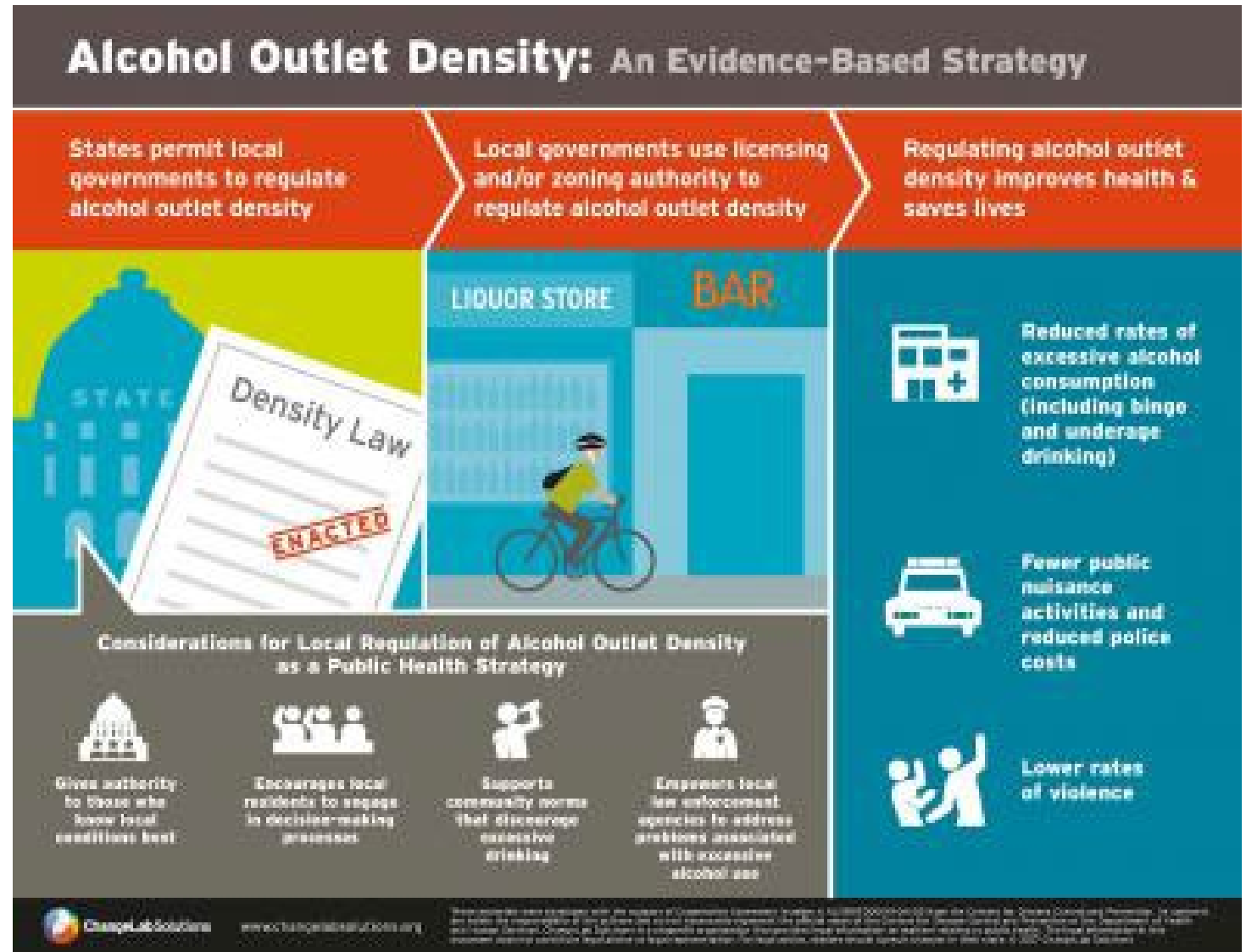
* Based on alcohol-attributable years of life lost.

Systematic Review

- *Castillo-Carniglia A., Pear V.A., Tracy M., Keyes K.M., Credo M., 2019. Limiting Alcohol Outlet Density to Prevent Alcohol Use and Violence: Estimating Policy Interventions Through Agent-Based Modeling. [Am J Epidemiol](#).2019 Apr; 188(4): 694–702.*
- *Simulation studies have provided insights into the mechanisms and potential impact of policy changes such as higher license fees and bans on selling alcohol.*
- *These policies might have the opposite result by concentrating heavy drinkers around and within alcohol outlets.*
- *Further studies should explore whether combining policies and prevention strategies might improve the health and social conditions of the population.*

Conclusion

- Alcohol outlet density is predictive of alcohol associated harm. Alcohol-related harm should be incorporated into a public health response to alcohol access and use.
- Achieving a reduction in the harmful use of alcohol in line with the targets included in the SDG 2030 agenda.



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Thank you

- Ministry of Health, Grenada
- Ministry of Finance, Inland Revenue Division, Grenada
- Royal Grenada Police Force
- Breweries, Distillers, Distributors
- St. George's University
- GAPC, 2023

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