

Work package 6: Economic and health impact assessment

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Context

➤ What we know:

- Alcohol use is a leading risk factor for disease (e.g. 4% of global disease burden; CRA 2000: Rehm et al, 2004)
- Interventions exist that have been shown to be effective in reducing alcohol use, e.g. taxation, brief interventions (APPG: Edwards et al, 1994; Babor et al, 2002)

➤ What we are not so sure about:

- Comparative cost, effect and cost-effectiveness of implementing interventions in different socio-cultural settings and populations



Analytical needs for economic & health impact anal

- **Interventions aimed at curbing excessive alcohol use may be for/at:**
 - Individual level (e.g. brief PHC advice)
 - Targeted sub-populations (e.g. drivers who drink)
 - Total population (e.g. tax on alcoholic beverages; ad bans)
- If just interested in one of these, use specific measure (e.g. traffic fatalities) [CEA]
- If interested in relative health consq's across these, use DALY or QALY [CUA]
- If interested in more than health (i.e. social welfare), use money metric [CBA]
- **For population-level sector-wide comparisons (e.g. WHO CHOICE), need:**
 - Patterns of **consumption** (e.g. recorded / unrecorded; amount of fiesta / binge drinking)
 - **Demography** (popn size / structure) and **epidemiology** (prevalence, mortality etc.)
 - **Effect size** estimates (e.g. reduction in relative risk of mortality, % improved remission rate)
 - Effect modifiers (e.g. intervention **coverage** / access, treatment response / **adherence**)
 - Health **service use**, programme mgt / infrastructure, and their associated **costs**



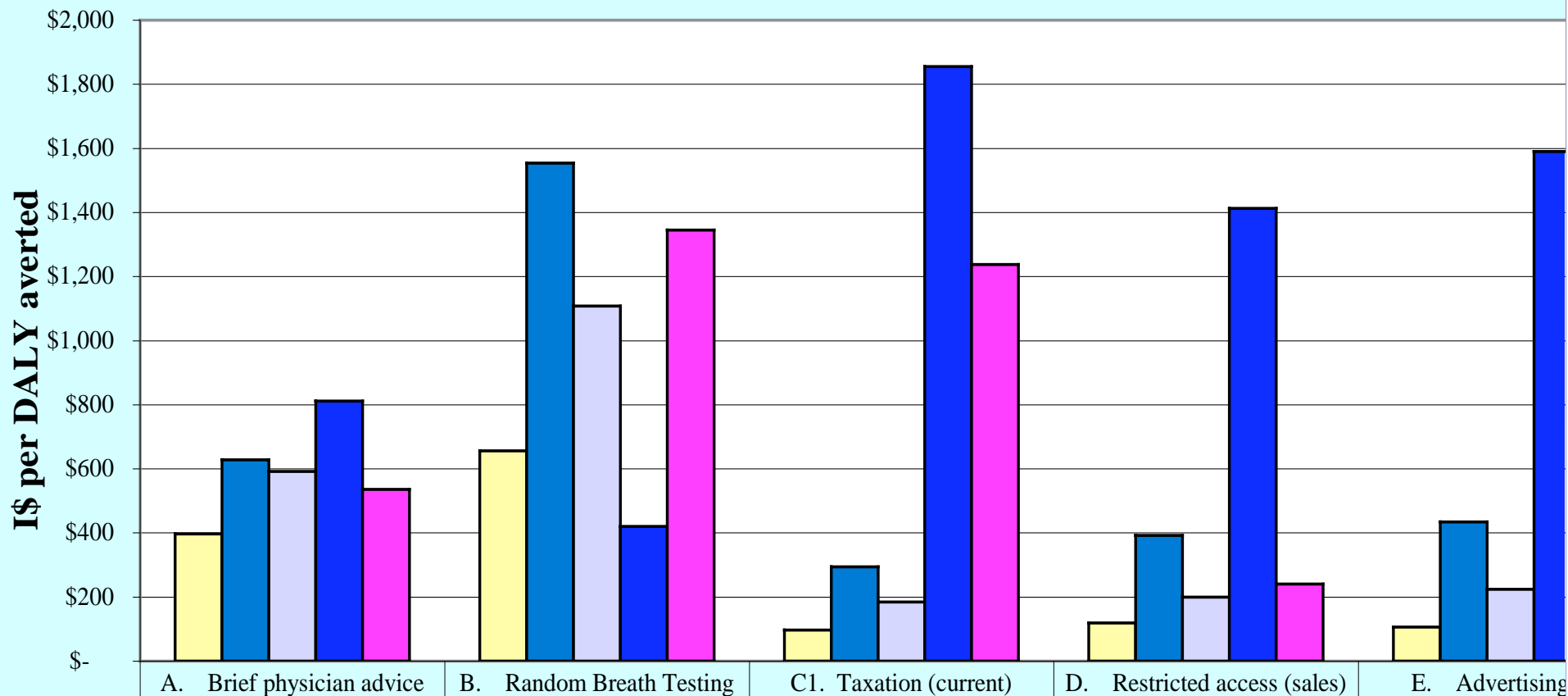
Economic analysis of interventions for reducing heavy alcohol use (Chisholm et al, 2004)

Strategy	Examples	Works on
Policy & legislative interventions	<ul style="list-style-type: none"> • Taxation on alcohol sales • Drink -driving laws • Licensing outlets • Advertising control 	Incidence Fatal / non -fatal injuries Incidence Incidence
Law enforcement	<ul style="list-style-type: none"> • Random breath testing 	Fatal / non -fatal injuries
Mass media / awareness campaigns	<ul style="list-style-type: none"> • School -based awareness campaigns 	Incidence
Brief interventions	<ul style="list-style-type: none"> • Physician advice in primary care 	Duration / remission



Intervention cost-effectiveness

(I\$ per DALY averted)



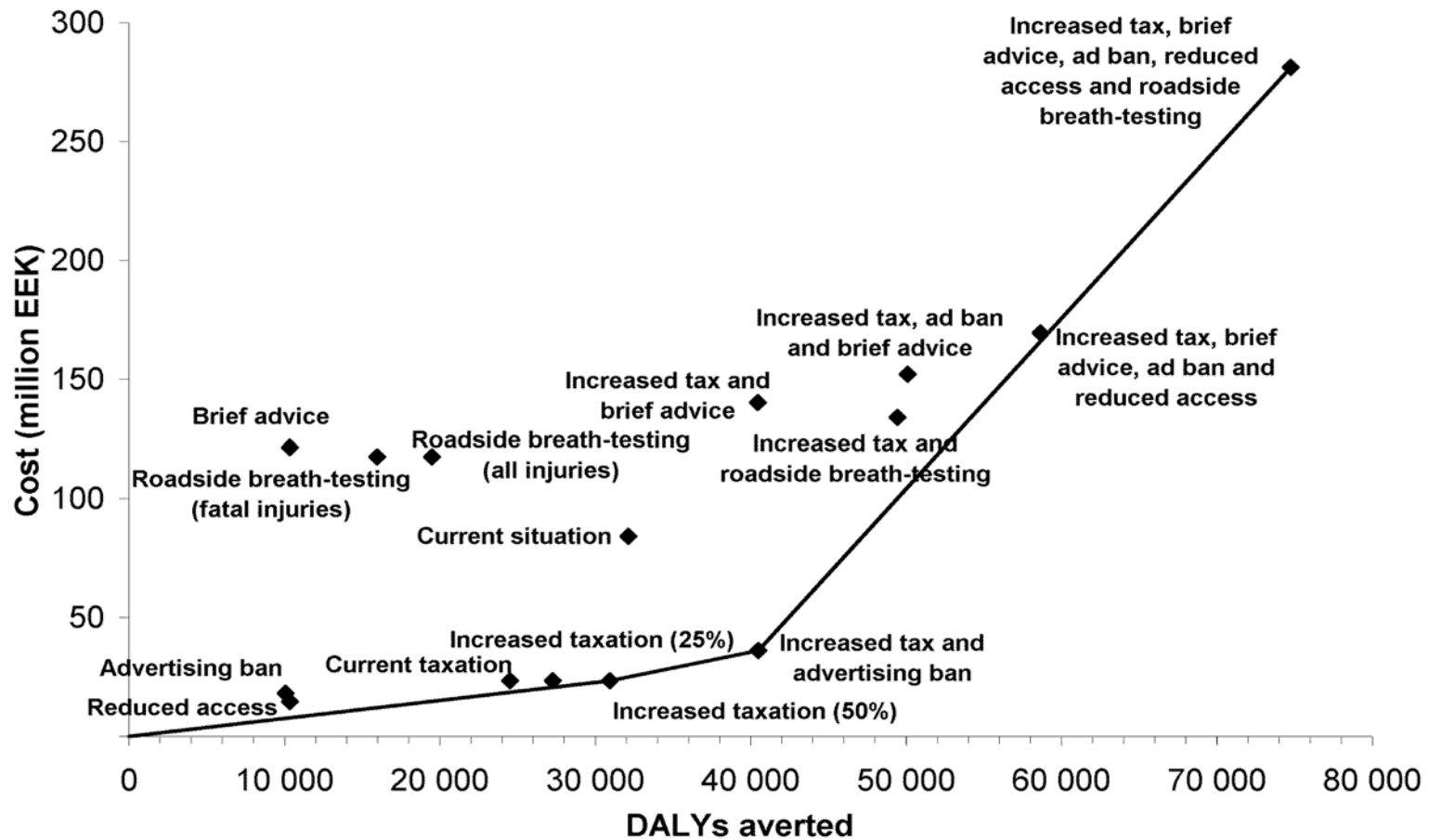
	A. Brief physician advice	B. Random Breath Testing	C1. Taxation (current)	D. Restricted access (sales)	E. Advertising
■ AfrE	\$398	\$656	\$97	\$119	\$106
■ AmrB	\$629	\$1,554	\$295	\$392	\$434
■ EurC	\$592	\$1,108	\$185	\$200	\$224
■ SearB	\$812	\$421	\$1,855	\$1,413	\$1,590
■ WprB	\$536	\$1,345	\$1,237	\$240	\$197

Heavy alcohol use and avertable burden

- Costs: Brief advice & breath-testing campaigns are the most costly interventions to implement. Preventive interventions such as tax & ad bans are less costly.
- Effectiveness: The most effective interventions in high-prevalence populations are taxation and brief advice. In low-prevalence populations, roadside interventions and restrictions on supply and promotion are more effective than tax.
- Cost-effectiveness:
 - Regions with higher levels of drinking (e.g. Europe): taxation represents the most efficient public health response to the burden of heavy alcohol use, followed by restricted sales access and advertising bans.
 - Regions with lower rates of heavy drinking: in South Asia, breath-testing was most cost-effective (due to high rate of traffic injuries); in Western Pacific (e.g. China), restrictions on supply and promotion were most cost-effective.



National-level analysis of alcohol control strategies: Estonia



Source: Lai T, et al. Health Policy (2007)

Key uncertainties / data needs (for discussion later)

- Tax: int'l (cross-)price elasticities; unrecorded consumption
- Drink-driving: The impact of roadside breath-testing in different road use environments
- Ad bans: quite weak effect, even for 'comprehensive' bans in OECD countries; is there robust evidence from elsewhere?
- Access / availability: out of the many possible approaches, which confer greatest potential benefit? What experiences / evidence can we draw on?
- Resources: Estimates of resource input requirements for implementing policies and programmes at the national level

