



The health and economic
impacts of alcohol control in
SRI LANKA
The case for investment



Investment Case for Alcohol Control in Sri Lanka

Executive summary

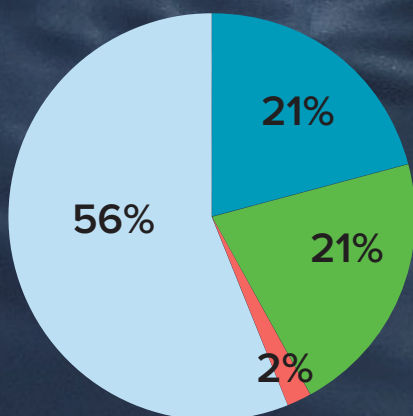
Every year, **alcohol kills**
more than

20,000

people in Sri Lanka.

Alcohol consumption causes around **335 billion**
Sri Lankan Rupee (LKR) in economic losses every
year in Sri Lanka, equivalent to

2.18% of its GDP.



Breakdown of the economic cost

- Health-care expenditure (direct costs)
- Absenteeism (indirect costs)
- Presenteeism (indirect costs)
- Decreased labour force (indirect costs)

The investment case demonstrates that strengthening five key alcohol control policy actions would, over the next 20 years (2024-2044) save around

104,000 lives

and reduce the incidence of alcohol-related disease. It would also avert

LKR 643 billion

in economic losses

and provide a return on investment (ROI) of

12.2 : 1

Recommendations

- 1** Take action to strengthen and enforce the five key alcohol control policy actions modelled in the investment case.
- 2** Strengthen multisectoral coordination for alcohol control in Sri Lanka, promote a whole-of-society approach and take action to protect against industry interference.
- 3** Raise public awareness of the far-reaching harms of alcohol including harm to others.
- 4** Implement measures to combat illicit trade and the associated health harms of illicit and informally produced alcohol.
- 5** Identify opportunities to integrate alcohol control with wider sustainable development strategies, programmes and activities in Sri Lanka.

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Executive summary

Alcohol is a significant threat to health and sustainable development. Alcohol consumption causes premature death preventable disease and injuries that result in high health spending costs and economic losses, widen socioeconomic and gender inequalities, and impede progress towards the achievement of the Sustainable Development Goals (SDGs).

This report summarizes the economic and health costs of alcohol consumption in Sri Lanka, as well as the return on investment and health benefits of implementing five WHO-recommended alcohol control policy actions. The five actions are:

- 1 **Strengthen restrictions on alcohol availability.**
- 2 **Advance and enforce drink driving counter-measures.**
- 3 **Facilitate access to screening, brief interventions and treatment.**
- 4 **Enforce bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion.**
- 5 **Raise excise taxes on alcoholic beverages.**

Main findings

- Alcohol consumption causes around **LKR 335 billion** Sri Lankan Rupee (LKR) in economic losses every year, in Sri Lanka, equivalent to **2.18 percent** of its GDP in 2018.
- Every year, alcohol kills more than **20,000** people in Sri Lanka.
- By acting now, the Government of Sri Lanka can reduce the national health, economic and social burden of alcohol. The investment case demonstrates that strengthening five key alcohol control policy actions would, over the next 20 years (2024-2044):
 - » Save around **104,000** lives and reduce the incidence of disease.
 - » Avert **LKR 643 billion** in economic losses.
 - » Provide a return on investment (ROI) of **12.2:1**. This means that the economic benefits (**LKR 643 billion**) significantly outweigh the costs of implementing the five key policy actions (**LKR 53 billion**).



Recommendations

This report provides comprehensive recommendations that the Government of Sri Lanka can take to protect public health and realize the benefits of alcohol control as an accelerator for sustainable development. Based on the findings of this investment case, these key actions for Sri Lanka are recommended to be pursued simultaneously:

1 Take action to strengthen and enforce the five key alcohol control policy actions modeled in this investment case:



2 Strengthen multisectoral coordination for alcohol control in Sri Lanka, promote a whole-of-society approach and take action to protect against industry interference.



3 Raise awareness of the far-reaching harms of alcohol including harm to others.



4 Implement measures to combat illicit trade and the associated health harms of illicit and informally produced alcohol.



5 Identify opportunities to integrate alcohol control into wider sustainable development strategies, programmes and activities in Sri Lanka.



1. Introduction

Alcohol consumption contributes to three million deaths globally each year, accounting for 5.3 percent of all deaths. Alcohol is the third leading risk factor for poor health worldwide, accounting for 5.1 percent of the global burden of disease and injury. Alcohol consumption causes more than 200 diseases, injuries and other health conditions [1].

Despite having lower levels of consumption of alcohol, the alcohol-attributable disease burden is highest in low- and lower-middle-income countries, compared to upper-middle- and high-income countries. Individuals of low socioeconomic status bear a disproportionate share of this burden, with the 'harm per litre' also greater amongst drinkers of a lower-income status and their families than their higher-income counterparts in any given society [2].

The burden of alcohol goes beyond health, as the economy is greatly affected as well. There are large alcohol-attributable costs to societies that extend outside health-care costs, such as social harm. The global economic costs of alcohol consumption are estimated to be 2.6 percent of GDP, with the majority of costs incurred through productivity losses (80 percent), where just 20 percent are direct costs, or health spending [3]. In some countries, the economic burden is as high as 5.4 percent of GDP [4].

Indeed, alcohol production and consumption impede progress towards many SDGs including ending poverty (SDG 1), achieving sustainable economic growth (SDG 8), reducing inequalities between and within countries (SDG 10) and achieving gender

The burden of alcohol goes beyond health, as the economy is greatly affected as well.



Photo: © World Bank via Flickr

equality (SDG 5) [2]. Alcohol use has a direct negative impact on many health-related targets in the SDGs, including infectious diseases, maternal and child health, non-communicable diseases (NCDs) and mental health and injuries. In addition, the use of alcohol has wider indirect effects, adversely impacting 14 SDGs and 54 targets of the Agenda 2030, including broader indicators relating to economic and social development, environment and equality [5].

UN member states have recognized the need to invest in alcohol control and have made several commitments to reduce the harmful use of alcohol. The Global strategy to reduce the harmful use of alcohol [6], adopted by the World Health Assembly in 2010, recognizes the relationship between the harmful use of alcohol and socio-economic development and provides guidance on reducing harmful use of alcohol at all levels. Tackling alcohol harms is a priority within the 2030 Agenda for Sustainable Development, particularly SDG Target 3.5 that calls for strengthening the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol. In addition, reducing harmful alcohol use is one of the nine targets of the World Health Organization (WHO) *Global action plan for the prevention and control of NCDs 2013-2030* [7].

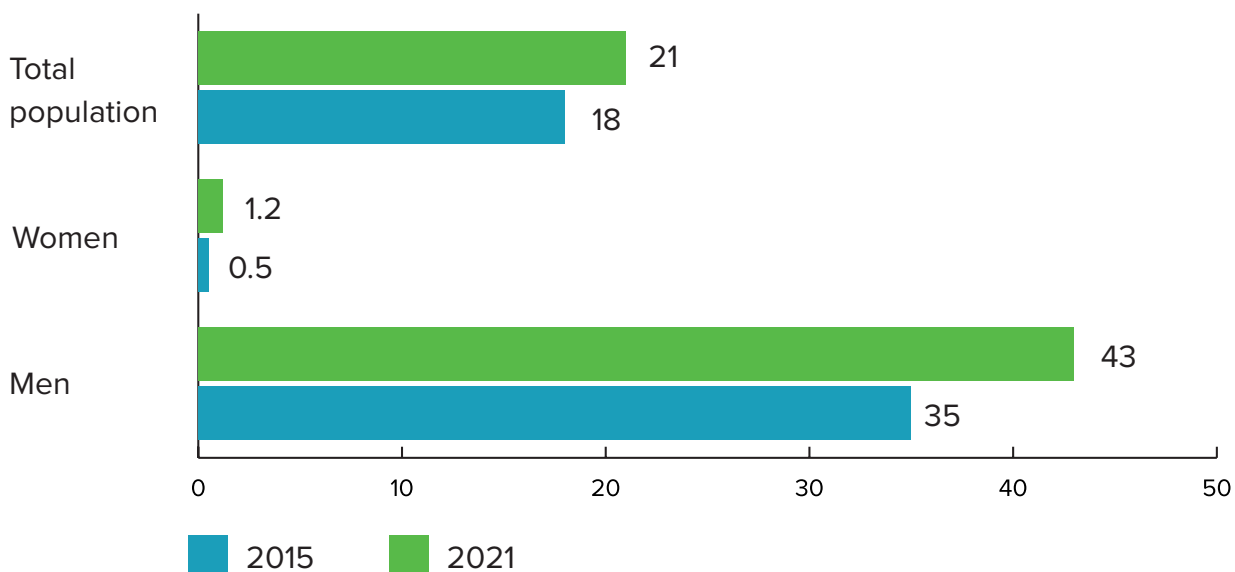
2. Alcohol in Sri Lanka: Status and context

2.1 Alcohol consumption and harms

Alcohol consumption

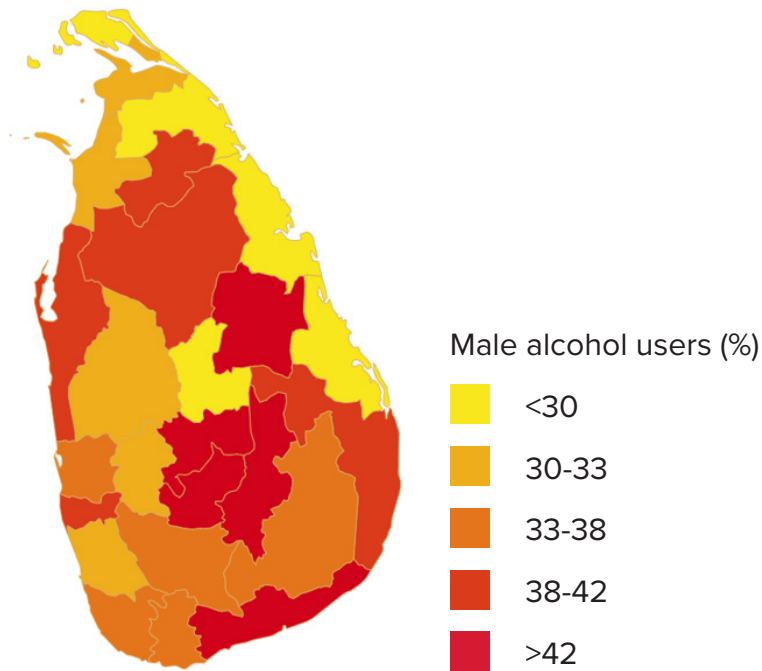
According to the WHO STEPwise approach to NCD risk factor surveillance (STEPS) survey conducted in Sri Lanka in 2021, around 21 percent of adults in Sri Lanka are current alcohol drinkers, with a much higher percentage of men (43 percent) than women (1.2 percent). The majority of adults were lifetime abstainers (65 percent), with women nearly three times as likely to be lifetime abstainers than their male counterparts (92 percent and 34 percent respectively) [8]. However, alcohol consumption has increased across the population since 2015 (see **Figure 1**), while the percentage of lifetime abstainers has also decreased, particularly among women. In 2015, 97 percent of women were lifetime abstainers compared to 92 percent in 2021 [8],[9].

Figure 1: Prevalence of current alcohol drinkers in Sri Lanka in 2015 and 2021



Source: Sri Lanka STEPS survey 2021 and 2015 [8], [9]

In Sri Lanka, annual alcohol consumption per capita (aged 15 and over) among drinkers is 14.9 litres of pure alcohol. The majority of recorded alcohol consumption is spirits (85 percent), followed by beer (13 percent) and other (2 percent). Arrack – a spirit made from the fermented sap of coconut flowers and sugar cane – accounts for the majority of alcohol sales in Sri Lanka despite declining as a proportion of overall sales. Annual per capita Arrack consumption has gradually increased – rising from 1.27 litres in 1998 to 1.64 litres in 2013 [10]. It is estimated that approximately 40 percent of alcohol consumed is unrecorded, i.e., not taxed and outside the usual system of governmental control [11]. The majority of unrecorded alcohol is Kasippu, a locally produced spirit [12].

Figure 2: Distribution of male alcohol users across regions in Sri Lanka¹

Source: Ministry of Health Quarterly NCD Report [13]

Alcohol consumption among males varies significantly across regions in Sri Lanka, as shown in **Figure 2**. The regions with the lowest rate of male alcohol users – namely Kalmunei and Mullativu with 13.3 and 15.6 percent of male alcohol users, respectively – have four times less alcohol users than Nuwara Eliya and Badula, in which more than half of the male population consumes alcohol [13]. There is no available data on female alcohol use in Sri Lanka and is thus unclear if the geography of female alcohol consumption mirrors that of male's in Sri Lanka.

Among current male drinkers, there is a high prevalence of heavy episodic drinking² – reported in nearly half (48 percent) of male adolescent drinkers (15-19 years) and in over 40 percent of all male drinkers (aged 15 and over) in 2016 [11].

The Global School-Based Student Health Survey conducted in 2016 found that 3.2 percent of students (aged 13-17 years old) reported current use of alcohol. Consumption was higher among males (5.5 percent) than females (1 percent) and among those 16-17 years old (5.8 percent). Among current alcohol users (ages 13-17 years old), 27 percent typically obtained alcohol from their friends and 27 percent consumed two or more drinks per day. A large proportion of these students (43 percent) first drank before the age of 14 [15].

1 Due to lack of data on alcohol use among females, only male consumption is represented in this map [13].

2 Defined here as the proportion of adults (15+ years) who have had at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days [14].

Alcohol-associated harms

Alcohol consumption in Sri Lanka imposes significant health, social and economic harms on the population.

There are significant health consequences associated with alcohol consumption. In Sri Lanka, the alcohol-attributable fraction for liver cirrhosis is 57 percent for males and 28 percent for females and for road traffic injuries, 21 percent among males and 11.7 percent among females [2].

Alcohol and tobacco consumption are comorbid and consumption of both can exacerbate health risks [16]. For example, using both tobacco and alcohol is associated with a five-fold increase of developing cancers³ compared to those who use just one. For heavy users, this risk increases up to 30 fold [17]. In Sri Lanka, 14 percent of the population smoke (including 30 percent of men and 0.2 percent of women) [8]. Tobacco use is more common in Sri Lankans who consume alcohol [18]. Using both alcohol and tobacco also has a significant financial impact on households, diverting resources from human development investment such as education, housing, health, and nutrition. A study of men in Sri Lanka found that those in the two lowest income groups (US\$76-143 each month) spent around 40 percent of their income on alcohol and tobacco [19].

Alcohol use is strongly associated with violence against women. A study in Sri Lanka found that 76 percent of the perpetrators of intimate partner violence against women were regular alcohol consumers [20]. The Women's Wellbeing Survey conducted in Sri Lanka in 2019 found that women whose partners consumed alcohol were at significantly higher risk of violence as compared with women whose partners did not use alcohol [21].

Alcohol consumption in Sri Lanka is also associated with worse mental health outcomes. Research has shown a strong association between alcohol consumption in Sri Lanka and suicide and deliberate self-harm [22], while a study of male patients receiving hospital care in Galle found that those with drinking problems were three times more likely to suffer from depression in comparison to the general population [23].

2.2 Multisectoral coordination for alcohol control

Sri Lanka's primary legislation on alcohol and tobacco control, the National Authority on Tobacco and Alcohol (NATA) Act of Sri Lanka, includes comprehensive restrictions on tobacco and alcohol, and also establishes a coordination mechanism, NATA, to facilitate implementation. NATA is multisectoral in nature and includes senior representatives from key sectors across government as well as other national institutions such as the National Dangerous Drugs Control Board (NDDCB), the Commissioner-General of Excise, and the Inspector General of Police. NATA has key responsibilities pertaining to alcohol control including advising the Government of Sri Lanka on the implementation of alcohol policy in

³ Cancers of the oral cavity, oropharynx, larynx and oesophagus

the country [25]. The NDDCB is also multisectoral and works closely with both the Ministry of Health and Ministry of Defense on alcohol and illicit drug law enforcement [30]. The NDDCB has a Preventive Education and Training Unit, which conducts prevention programmes for children and adolescents in schools, vocational training centers, and tertiary education institutions [31].

Civil society organizations play a key role in alcohol control in Sri Lanka. The Alcohol and Drug Information Centre (ADIC) is central to policy development for alcohol, tobacco and other drugs in Sri Lanka and across the region [25] [32]. ADIC has campaigned for increased alcohol taxation to tackle alcohol harms and also runs programmes on harm reduction in collaboration with the Ministry of Education [33] [25]. Foundation for Innovative Social Development (FISD) Sri Lanka conducts capacity building programmes with youth groups to strengthen alcohol control policy implementation and reduce supply and demand, while also advocating for national organisations to mainstream alcohol prevention and management into existing programme activities [34].



Photo: © Unsplash

2.3 National alcohol legislation and policy landscape

The current level of implementation of each intervention was assessed during institutional context analysis (ICA) interviews with key stakeholders in Sri Lanka, as well as through a landscape review of alcohol control laws in Sri Lanka and their implementation. Based on this information, we then adjusted the level of implementation of these interventions to match with the OHT’s categorization of policy implementation level, which ranges from 1 to 4, where a score of 1 is associated with the intervention not being in place, and a score of 4 signifying that the intervention meets WHO standards. Consultation with experts enabled us to set the baseline level of each intervention. Each intervention was then scaled-up to level 4, except for the intervention on raising excise taxes, which was scaled-up to yield a 50 percent increase in current alcohol excise tax.

Table 1. Summary of baseline implementation level of policy interventions

Intervention	Status	Latest value (year)
Restrictions on alcohol availability	The minimum legal age for sale of alcoholic beverages is 21 [24], [25].	12.7 (2018)
Drink driving counter measures	Sri Lanka has a Blood Alcohol Concentration (BAC) limit of 0.08 for all drivers, including young or professional drivers. Breath testing for drink driving is most commonly determined by po-lice officers rather than using a breathalyser kit. In addition, Sri Lanka has also implemented random-breath testing [25]. Sri Lanka is one of few countries in the region, along with India and Thailand, that have implemented short-term detention for BAC offenders [25].	3
Access to screening, brief interventions and treatment	<p>Alcohol screening/brief intervention has not been implement-ed into primary care. Of those receiving treatment for alcohol use disorders, 68 percent are treated in the public sector, 25 percent in the private sector, 5 percent joint public/private and 2 percent by non-governmental organizations (NGOs). The most commonly used treatment setting is mental health services [25].</p> <p>As of 2017, there were four treatment and rehabilitation cen-tres for drug and alcohol dependence. The state body, Nation-al Dangerous Drug Control Board, is responsible for drug abuse management and supports the rehabilitation centres [25].</p> <p>Sri Lanka has comparatively high availability of detoxification compared to other countries in the region. The coverage rate for inpatient and outpatient medical detoxification is 50 to 90 percent. There are 464 beds for alcohol and drug use disorders. However, the treatment coverage for long-term residential rehabilitation is less than 10 percent [25]. Research suggests that a lack of awareness of alcohol use disorders and lack of knowledge about the prevalence in the community results in the underdiagnosis by physicians [26].</p>	2

<p>Bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion</p>	<p>The National Alcohol and Tobacco Act prohibits any form of advertising, promotion and sponsorship of tobacco and alcohol products. However, policy fragmentation and lack of enforcement has resulted in advertisements and product placement still occurring in the country.</p> <p>Despite existing bans, Sri Lankan youth remain exposed to alcohol advertisements regularly. In the 2016 Global School-based Student Health Survey, 10.8 percent of students (13-17 years old) reported seeing alcohol advertisements almost daily. More than one in four (28 percent) reported seeing alcohol advertisements either “sometimes” or “more frequent” at sports events, fairs, concerts, community events or social gatherings [15].</p> <p>Moreover, according to the Public Opinion Survey on Alcohol Regulations conducted in 2021, 54 percent of respondents observed direct alcohol promotions through digital media in the previous 3 months and 77 percent observed indirect alcohol promotions through digital media during the same period [27].</p>	<p>2</p>
<p>Excise taxes and pricing policies to raise alcohol prices</p>	<p>Taxes account for approximately 75 percent of the price of alcoholic beverages [28].</p> <p>In 2023, the Ministry of Finance increased the excise duties on liquor. This sets excise duty at the following [29]:</p> <ul style="list-style-type: none"> • Special Arrack from licensed manufacturers in Sri Lanka –6,000 LKR per litre of alcohol • Molasses, Palmyrah, Coconut and Processed Arrack manufactured in Sri Lanka – LKR 6,420 per litre of alcohol • Spirits manufactured in Sri Lanka – LKR 6,600 per litre of alcohol • Malt Liquor (5 percent and less) manufactured in Sri Lanka – LKR 4,750 per litre of alcohol • Malt Liquor (5 percent and more) manufactured in Sri Lanka – LKR 4,980 per litre of alcohol 	<p>A 50 percent uniform increase in the specific excise tax effective as of July 2023 for the most consumed type of arrack, beer and wine, over 5 years so that by 2028 the excise tax will be 50 percent higher than it currently is.</p>

3. Methodology

The purpose of the investment case for alcohol control is to quantify the current health and economic burden of alcohol use in Sri Lanka and to estimate the benefits of scaled up action. Investment cases are a good tool for governments to better understand the economic impact of alcohol and return on investment of investing in alcohol control for meeting development goals. It can help in cabinet level discussions and mobilize different sectors and create political space for increased investments in alcohol control. Within the health sector, it can help to reconsider aligning existing health budgets towards more investments in health promotion and disease prevention rather than spending money on treating illnesses and their consequences. The role of non-health sectors in contributing to the alcohol control agenda is emphasized throughout the process. Overall, it can justify the need for development partners to start, or increase, their investments in tobacco control.

The investment case team worked with the Ministry of Health and other stakeholders in Sri Lanka to collect national data inputs for the model. Where data were unavailable from government or other in-country sources, the team utilized publicly available national and regional data from sources such as the WHO, the World Bank database, the Global Burden of Disease study by the Institute for Health Metrics and Evaluation (IHME), and academic literature. Within the investment case, costs and monetized benefits are reported in constant Sri Lankan Rupees (LKR) and discounted at an annual rate of three percent.⁴

The analysis looks at the relative resource needs and respective health, and economic benefits, of investing in five policy interventions, using the WHO OneHealth Tool (OHT), an epidemiology-based population model developed by United Nations partners to enable strategic planning and costing of interventions and projection of the health benefits expected from their implementation. Health benefits are generated in terms of natural units (deaths averted and healthy life years gained) but also monetized using the human capital approach, to enable benefit–cost ratios (the primary return-on-investment metric) to be evaluated and reported for the package of interventions. The human capital approach assumes that forgone economic output is equivalent to the total output that would have been generated by workers through the course of their life until reaching retirement age. An overview of the tools and methods used to perform these steps are described in this report’s annex on methodology. A step-by-step guidance of the methodology, detailing the assumptions and equations used throughout the modelling process, is available upon request.

4 Future benefits are discounted since a unit of currency in the future is worth less than a unit today owing to the time value of money.

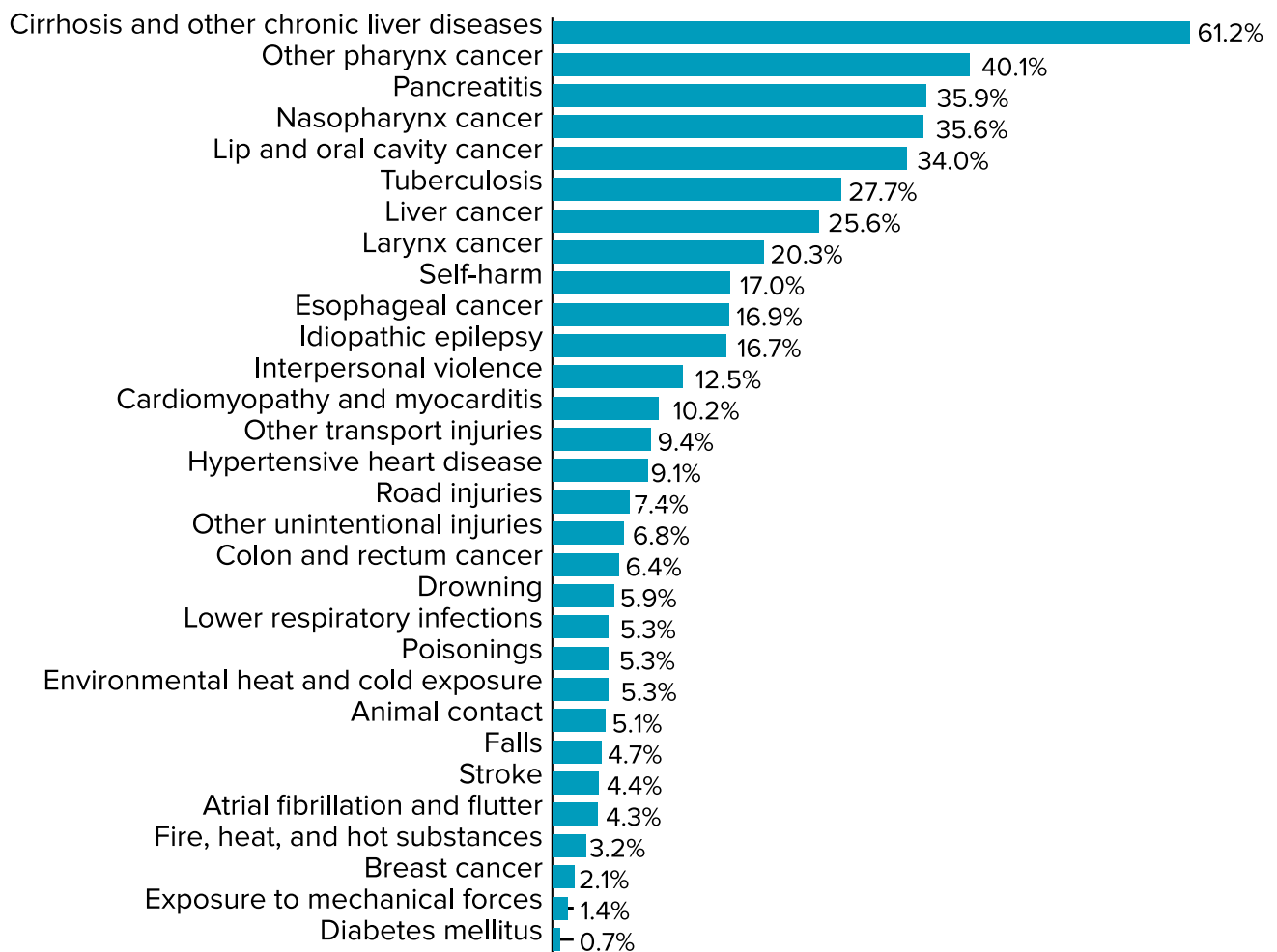
4. Results

4.1 The current burden of alcohol use: health and economic costs

5.1.1 Health burden

Alcohol causes more than 20,000 deaths in Sri Lanka every year [35]. **Figure 3** illustrates the numerous diseases through which alcohol use causes death in Sri Lanka. More than 60 percent of cirrhosis and other chronic liver disease deaths are caused by alcohol use, followed by 40 percent of pharynx cancer deaths and 36 percent of pancreatitis deaths.

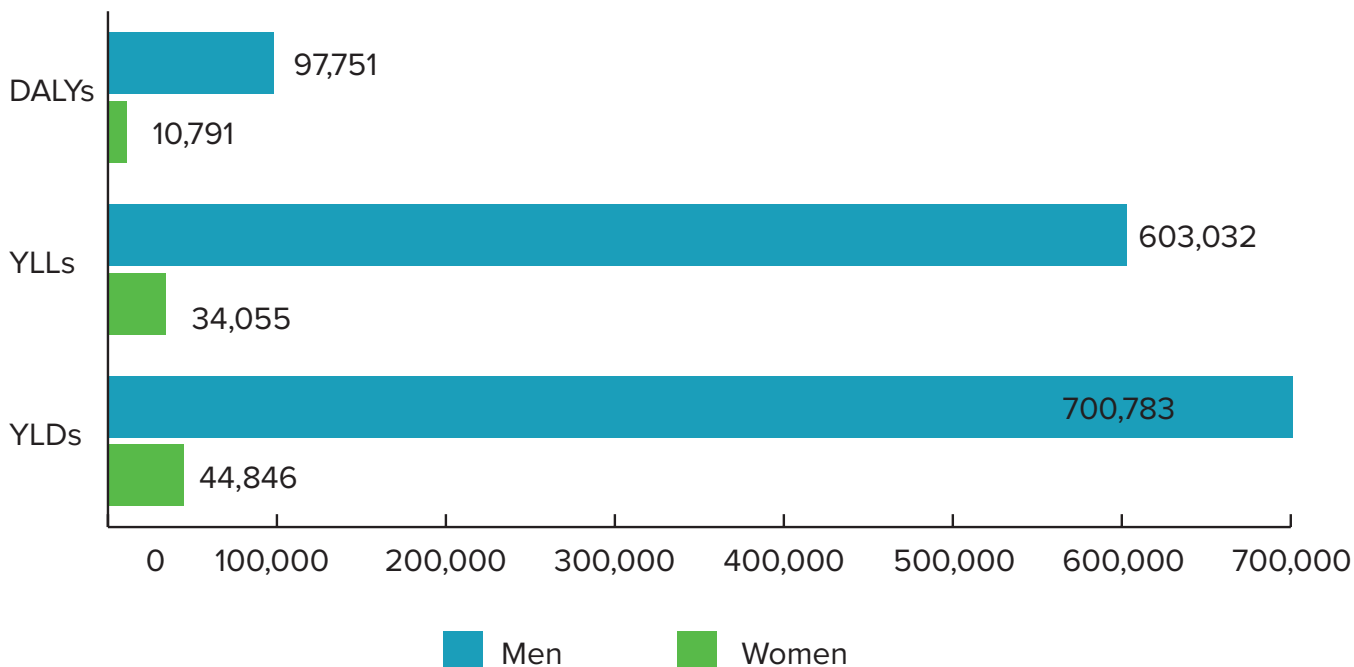
Figure 3: Share of alcohol-attributable mortality by cause of death in Sri Lanka, 2019 (%)



Source: IHME GBD, 2019 [36]

Alcohol-attributable deaths in Sri Lanka amount to approximately 637,000 years of life lost (YLLs), 109,00 years lived with disability (YLD) and 746,000 daily-adjusted life years (DALYs) (Figure 4).⁵

Figure 4: Alcohol-attributable YLDs, YLLs and DALYs in Sri Lanka, by gender, 2019



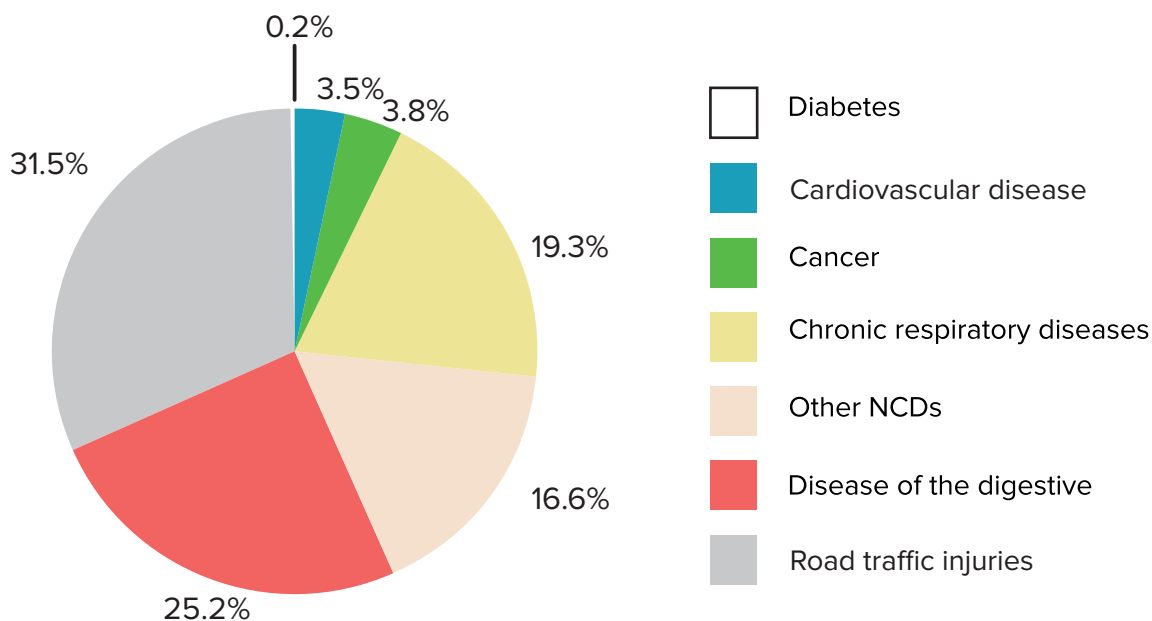
Source: Based on data from GBD, data for 2019

4.2.2 Economic burden

Alcohol-related disease costs the Sri Lankan economy an estimated LKR 335 billion every year, equivalent to about 2.18 percent of its GDP in 2018. While the costs of alcohol-attributable mortality are high, the economic consequences of alcohol use begin long before death. First, as individuals suffer from alcohol-attributable diseases, expensive medical care is required to treat them. The direct cost, or health-care expenditure associated with treating alcohol-related diseases in Sri Lanka are substantial. This amounts to LKR 69 billion every year.

5 YLDs are “years lived in less than ideal health...[YLDs are] measured by taking the prevalence of a [disease] condition multiplied by the disability weight for that condition. Disability weights reflect the severity of different conditions.” YLLs are “calculated by subtracting the age at death from the longest possible life expectancy for a person at that age.” Disability-adjusted life years (DALYs) “equal the sum of YLLs and YLDs. One DALY equals one lost year of healthy life.” Source: IHME. (2018). Frequently asked questions. Accessible at <http://www.healthdata.org/gbd/faq#What%20is%20a%20DALY>

Figure 5: Health-care costs (direct costs) of alcohol related diseases



As **Figure 5** illustrates, road injuries are the main driver of the direct costs caused by alcohol (LKR 21.7 billion). These are followed by diseases of the digestive (LKR 17 billion), chronic respiratory diseases (LKR 13 billion), “other NCD” categorization based on the latest National Health Accounts (NHA) records [41] available in Sri Lanka (LKR 11.5 billion), cancer (LKR 2.6 billion), CVD (LKR 2.4 billion) and diabetes (LKR 116 million).

In addition to health-care costs, there are economic productivity losses (or indirect costs) associated with missing days of work (absenteeism) or being less productive at work (presenteeism) as individuals become sick. In Sri Lanka, the cost of excess absenteeism due to alcohol-related illness is around LKR 70 billion, and the cost of presenteeism due to drinking alcohol is LKR 6.7 billion. The highest economic productivity loss arises from labor force decrease – as individuals drop out of the labour force due to alcohol-related illness or death – costing Sri Lanka around LKR 189 billion every year (**Figure 6**).

Figure 6: Breakdown of the total cost (percentage)

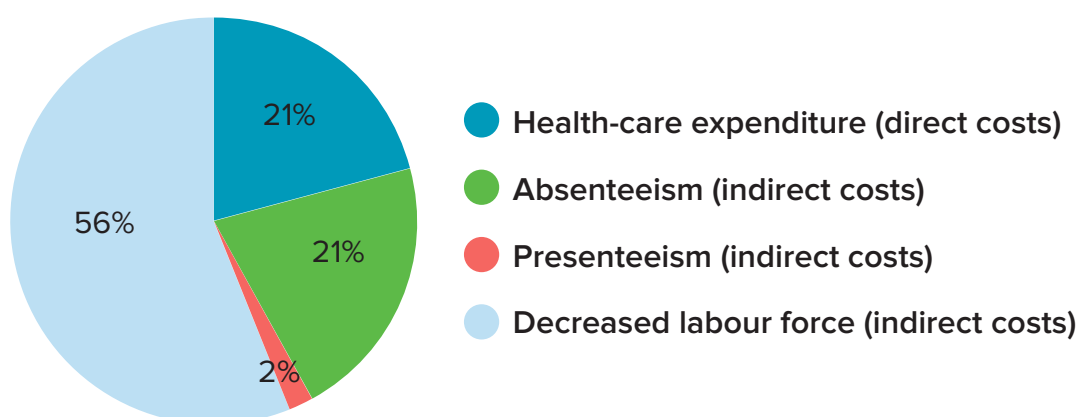
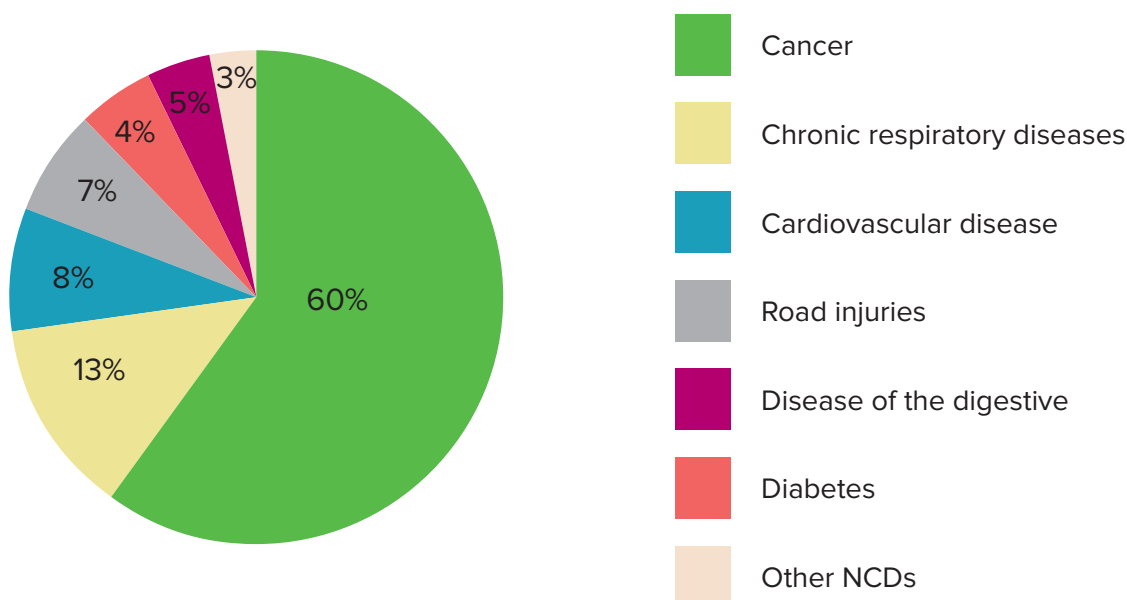


Figure 7 summarizes the total cost (both direct and indirect) of the main alcohol-attributable diseases in Sri Lanka. Alcohol-attributable cancer is the main driver, with 60 percent of total costs coming from cancer, followed by chronic respiratory diseases, responsible for 13 percent of total costs.

Figure 7: Total cost (direct and indirect) disaggregated by disease



4.2 Implementing policy measures that reduce the burden of alcohol use

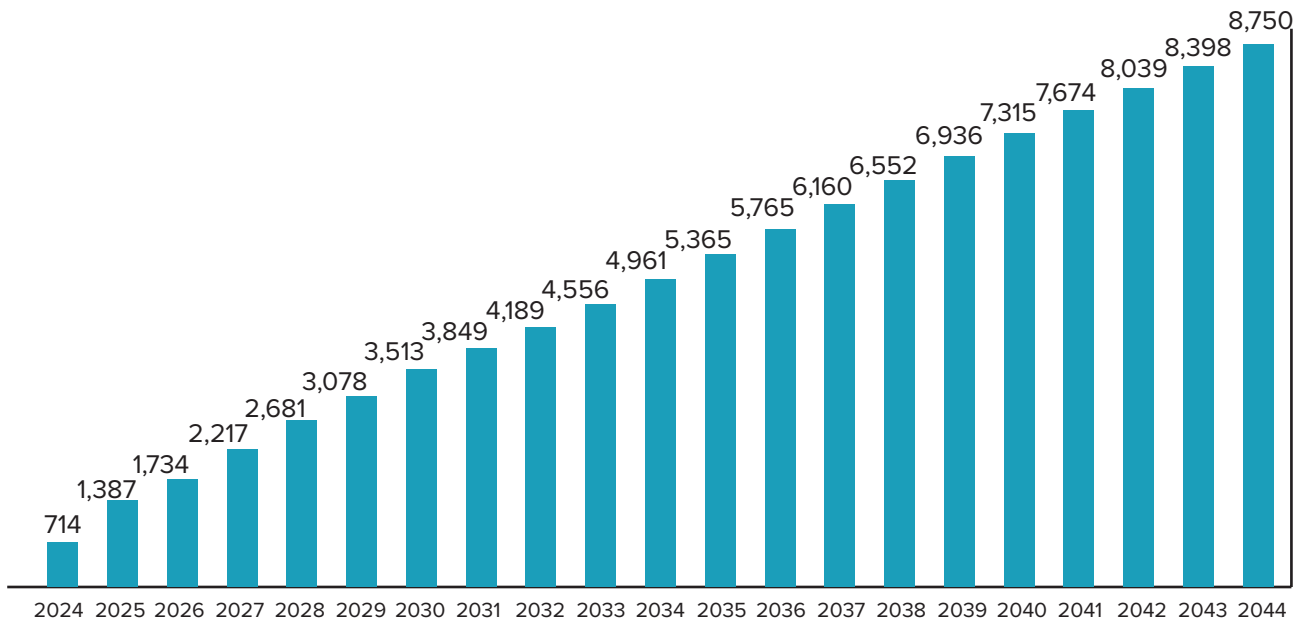
Through the full implementation of recommended alcohol control measures, Sri Lanka can secure significant health and economic returns, and begin to reduce the LKR 335 billion in annual economic losses from alcohol use.

The next two subsections present the health and economic benefits that result from scaling-up five key alcohol control policy actions, namely: 1) enforcing restrictions on availability of retailed alcohol; 2) enforcing restrictions on alcohol advertising; 3) raising taxes on alcoholic beverages; 4) screening and brief intervention for hazardous and harmful alcohol use; and 5) strengthening drink driving laws.

4.2.1 Health benefits

The full implementation of the package of alcohol interventions would lead to substantial health gains for Sri Lanka. Implementing the package of five alcohol policy actions that are the focus of this investment case would save an estimated 104,000 lives and an additional 987,400 healthy life years (HLY)⁶ gained over 20 years (2024-2044). The health impacts of scaled-up action on alcohol control are incremental, as illustrated in **Figure 8**, showing that over time, an increasing number of lives are saved, and healthy life years are gained.

⁶ HLYG are the additional healthy years of life individuals get through averted illness.

Figure 8: Annual deaths averted from 2024-2044 (non-cumulative)

4.2.2 Economic benefits

Implementing the package of five key alcohol interventions would result in Sri Lanka averting LKR 643 billion in economic losses due to alcohol, over 20 years (2024-2044).

With better health that would arise from the strengthening of alcohol interventions, fewer individuals would need access to health-care services due to alcohol-related diseases, resulting in direct cost savings to the government and citizens. Better health also leads to increased productivity and economic output, with fewer working-age individuals leaving the workforce prematurely and permanently due to death and disability. At the same time, workers miss fewer days of work (absenteeism) and are less hindered by health complications while at work (presenteeism).

4.2.3 The return on investment

While the health gains from strengthening alcohol control in Sri Lanka are by themselves enough to justify the cost of the interventions, the economic gains that will also accrue make the case for increased alcohol control even stronger.

An investment is considered worthwhile from an economic perspective if the gains from making it outweigh the costs. A return on investment (ROI) analysis measures the worthiness of investing in the alcohol control policies by dividing the economic benefits that are gained from implementing the package of interventions by the costs of implementing them.

For this investment case, the ROI for each policy intervention was evaluated in the short-term (five years), to align with planning and political cycles, and in the medium-term (20 years), to reflect the larger benefits that accrue over time. Given the long-term nature of many alcohol-related illnesses, with disease often only developing after years of alcohol use, the ROIs for

each intervention grow over time, reflecting the compounding gains from going from the planning and development stages to full implementation.

As **Figure 9** illustrates, the economic benefits of strengthening alcohol control in Sri Lanka over five years (LKR 36 billion) and 20 years (LKR 643 billion) greatly outweigh costs of implementation (LKR 14 billion over five years and LKR 53 billion over 20 years).

Figure 9: Return on investment over five and 20 years



5. Conclusion and recommendations

Each year, alcohol use costs Sri Lanka LKR 335 billion in economic losses and causes substantial human development losses. Fortunately, as the investment case shows, there is an opportunity to reduce the health, social and economic burden of alcohol in Sri Lanka. Enacting the package of five policy actions would save on average 5,200 lives each year and reduce the incidence of alcohol-related disease, leading to averted productivity losses and savings from averted medical costs.

In economic terms, these benefits are substantial, adding up to LKR 643 billion over the next 20 years. Importantly, the economic benefits of strengthening alcohol control in Sri Lanka greatly outweigh the costs of implementation (LKR 53 billion).

By investing now in the package of five alcohol policy actions modeled in this investment case, Sri Lanka would not only reduce alcohol consumption, improve health, reduce government health expenditures, and grow the economy, it would also reduce the hardships faced by many Sri Lankans. The country can also reinvest the savings from government health-care expenditures and revenue from increased alcohol taxes into national development priorities such as universal health coverage and other social protection measures, as well as COVID-19 recovery efforts and pandemic preparedness. Based on the findings of this investment case, these key actions for Sri Lanka are recommended to be pursued simultaneously:


1 Take action to strengthen and enforce the five key alcohol control policy actions modeled in this investment case:

- Strengthening restrictions on alcohol availability. Sri Lanka has made good progress with its comprehensive ban on alcohol use in most public places and minimum legal age of sale [24], [25]. However, the country would benefit from further strengthening restrictions on alcohol availability. It is recommended that Sri Lanka strengthens restrictions on the sale of alcohol near educational institutions and strictly enforces the ban on the sale to minors to prevent and minimise alcohol consumption among youth. Almost all (94 percent) of Sri Lankans support banning alcohol sales within 500 meters from schools [37].
- Advancing and enforcing drink-driving countermeasures. Sri Lanka has a legal BAC limit and has implemented random breath testing [25]. However, the use of breathalysers is not widespread. Sri Lanka would benefit from investing in advancing and enforcing drink-driving countermeasures including the widespread use of breathalysers.
- Facilitating access to screening, brief interventions and treatment. Sri Lanka can also consider increasing access to screening, brief interventions and treatment. Sri Lanka would benefit from raising awareness of alcohol use disorders and their prevalence in the

community at the population level and among medical professionals including physicians. Alcohol screening and brief interventions should also be implemented into primary care to facilitate access and availability.

- Enforcing bans or comprehensive restrictions on alcohol advertising, sponsorship and promotion. Despite existing restrictions, the population of Sri Lanka including youth remain frequently exposed to alcohol advertising, sponsorship and promotion. Sri Lanka would benefit from strengthening enforcement of restrictions to protect the population from exposure to advertising, with an emphasis on protecting the youth.
- Raising prices on alcohol through excise taxes and pricing policies. Raising prices on alcohol is the single most cost-effective strategy to reduce and prevent alcohol related harm. Pricing strategies such as minimum pricing policies, adjusting taxes according to inflation and income levels, and banning the sale of products below cost or volume discounts, can further reduce and prevent alcohol related harm [38].

2 Strengthen multisectoral coordination for alcohol control in Sri Lanka, promote a whole-of-society approach and take action to protect against industry interference.




The cause and effects of alcohol use are not limited to health alone. A whole-of-government and whole-of-society approach is required for effective action to reduce alcohol consumption and its multifaceted harms. Sri Lanka has made commendable progress in advancing multisectoral coordination on alcohol through the establishment of the National Authority on Tobacco and Alcohol (NATA) and the National Dangerous Drugs Control Board (NDDCB), which are both multisectoral in nature.

Sri Lanka can advance multisectoral coordination further by developing, publishing and routinely updating a national multisectoral alcohol control strategy. This can, amongst other things, outline key roles and responsibilities for key stakeholders, serve to guide NATA and the NDDCB, as well as set out plans to strengthen alcohol control policies and legislation. Sri Lanka can leverage the existing network of civil society organizations working on alcohol control and ensure they are included in national policymaking, strategies, plans and activities. Sri Lanka can also ensure communities are supported and empowered, given the vital role communities can play in fostering local initiatives.

Sri Lanka would also benefit from taking action to protect public health policy from alcohol industry interference. Efforts to raise awareness among all public officials of the need to avoid conflicts of interest are encouraged and can be undertaken in collaboration with alcohol control civil society groups. Sri Lanka can also consider implementing a code of conduct prescribing expected standards for all public officials, service providers, contractors and consultants involved in setting or implementing policies surrounding alcohol control.

3 Raise awareness of the far-reaching harms of alcohol including harm to others.



Raising public awareness about the significant harms of alcohol is vital to reduce alcohol consumption and its harms, and to garner public support for alcohol control measures. As such, Sri Lanka can ensure all levels of society have access to reliable information and public awareness programmes focused on the wide range of alcohol-related harm in Sri Lanka and the need for effective prevention measures [6]. Sri Lanka has made commendable efforts in raising awareness particularly among the youth through the NDDCB's Preventive Education and Training Unit [31]. However, integrating alcohol and its harms in addition to other substances into the school curriculum for all students could garner additional benefits. According to the public opinion survey in 2021, just 36 percent thought that Sri Lankan education provided the necessary information to refrain from alcohol consumption [37].

Efforts should include raising awareness of the harm to others caused by alcohol, particularly among vulnerable groups, including women, girls and low-income individuals. Initiatives must ensure to avoid stigmatization and discourage discrimination against people who consume or are addicted to alcohol.

Sri Lanka can also implement campaigns specific to drink driving to lessen the burden of alcohol-attributable road traffic accidents and garner public support of policy. It is recommended to run high-intensity campaigns targeted at specific situations and audiences such as young people, holiday seasons and at driving schools [6]. Campaigns should be monitored and evaluated for effectiveness.

Sri Lanka can also consider awareness efforts specifically aimed at government officials. This should include sensitizing ministries across government how alcohol impedes their sector's goals, in addition to key actions they can take to avert avoidable harms and economic losses.

4 Implement measures to combat illicit trade and the associated health harms of illicit and informally produced alcohol.



In Sri Lanka, around 40 percent of alcohol consumed is unrecorded [11]. Illicit and informally produced alcohol exacerbates alcohol-attributable harms by impeding the effectiveness of alcohol control policies enacted by the government. Illicit and informally produced alcohol

can also impose additional health risks due to a lack of quality testing, containing higher ethanol content and the potential for contamination with toxic substances. Control measures for informally produced and illicit alcohol may be different due to the role of informal alcohol in many cultures [6]. To reduce the health risk of illicit and informally produced alcohol, Sri Lanka can consider the following:

- Raising public awareness about the health threats from informal and illicit alcohol including contaminants
- Developing and implementing an efficient control and enforcement system including tax stamps
- Developing and strengthening tracking and tracing system to counteract illicit alcohol
- Regulating the sale of informally produced alcohol and bringing it into the taxation system

5 Identify opportunities to integrate alcohol control into wider sustainable development strategies, programmes and activities in Sri Lanka.



With the vast health, social, economic, development and environmental costs of alcohol, strengthening alcohol control measures is a powerful means for Sri Lanka to improve the lives of its citizens, achieve the SDGs, and improve the conditions and future of the country. All sectors have a role to play in the alcohol response and the benefits of scaled up action will enrich all aspects of life in Sri Lanka.

Efforts should be made to address the nexus between alcohol and key issues in Sri Lanka such as domestic, gender-based and interpersonal violence. Evidence from Sri Lanka and globally demonstrates the link between alcohol and gender based violence, with the majority of perpetrators of intimate partner violence against women being regular alcohol consumers [20].

The Government of Sri Lanka should prioritize alcohol control measures in sustainable development strategies, realizing the potential of such measures to advance sustainable development. Strengthening alcohol control can help Sri Lanka achieve its goals set out in Vision 2030 including priorities on gender, health poverty and inequality and education [39].

Annex: Methodology of the Investment Case

The investment case consists of two components: 1) assessing the current economic burden of alcohol use and 2) estimating the economic benefits that can be achieved by reducing this burden. The tools and methods used to perform these methodological steps are described in detail below.

STEP



Identify the mortality and morbidity of alcohol-related diseases

The current economic burden model provides a snapshot of the disease and economic burden of alcohol use in Sri Lanka in the most recent year for which data are available. The investment case model is populated with country-specific data on alcohol-attributable mortality and morbidity from the 2019 Global Burden of Disease Study (GBD). The population data is then adjusted by official population data obtained from the Sri Lankan Department of Census and Statistics [40]. The study provides estimates of the extent to which consuming alcohol contributes to deaths, diseases and healthy life year lost in Sri Lanka.

STEP



Estimate the costs associated with alcohol-related diseases

The model estimates the total economic costs of disease and death caused by alcohol use. The total economic costs include alcohol-attributable health-care expenditures, the value of alcohol-attributable premature labor-force withdrawal, due to mortality and early retirement, and workplace productivity losses: absenteeism and presenteeism. Workplace costs and the cost of alcohol-attributable labor-force withdrawal represent the monetized value of lost time or productive capacity, as a result of alcohol-attributable diseases. The cost of alcohol-attributable mortality and disability accrues when alcohol use causes mortality or disability, eliminating the unique economic and social contributions that an individual would have provided in their remaining years of life. Workplace costs accrue when alcohol consumption results in productivity losses. Compared to non-alcohol users, individuals who consume alcohol are more likely to miss days of work (absenteeism) and to be less productive at work due to alcohol-related factors (presenteeism).

UNDP has developed a model for calculating the economic burden of NCDs, which provides estimates of the current direct and indirect costs of NCDs, and more specifically, alcohol-attributable NCDs in Sri Lanka. The inputs in determining the economic burden of alcohol are incidence, prevalence, DALYs and death rates, by age and sex, for diabetes, ischemic heart disease, stroke, hypertension, chronic respiratory disease, cancer and road traffic injuries.

To compute the ‘direct’ costs of alcohol use, or the health expenditure on alcohol-related diseases in Sri Lanka, data on NCD expenditure was collected from the most recent National Health Accounts (NHA) records [41], which was then adjusted by attributable fractions from IHME. Health-care expenditures include alcohol-attributable public (government-paid), private (insurance, individual out-of-pocket), and other health-care expenditures.

To estimate the ‘indirect’ costs of alcohol-related diseases, a first key input is the annual value (in terms of economic output) of each full-time worker in Sri Lanka. This is based on GDP per employed person, defined as the country’s GDP divided by its total employed labour force. Local data on the total labour force aged 15 years and older, the unemployment rate and the labour force participation rate were used to determine the total employed labour force for Sri Lanka [40]. National data derived from Ranaweera et al., (2018) study was used to compute absenteeism [46].

Data were incorporated on the extent to which alcohol-attributable diseases reduce worker productivity. From the academic literature [42], [43], rates were found to describe (a) the reduction in labour force participation from hypertension, cardiovascular diseases, diabetes cancer and COPD-lung disease; (b) the reduction in full-time hours worked because of absenteeism; (c) the reduction in productivity because of presenteeism.

An estimate of the number of people with alcohol-attributable diseases working in Sri Lanka was determined. Using the rates of labour force participation, unemployment and mortality, the model identified the number of people of working age with alcohol-attributable diseases; subtracted those who chose not to participate in the labour force or were unemployed; subtracted those who could not participate in the labour force specifically because of their alcohol-attributable diseases; and, finally, subtracted those who had died. This yielded the number of active workers with alcohol-attributable diseases.

This allowed the calculation of the relative costs of absenteeism and presenteeism for surviving active workers with alcohol-attributable disease. This cost was put together with the economic value of lost labour output, based on the numbers of workers who had died from alcohol-attributable diseases and would-be workers who could not participate in the labour force, or were forced to withdraw from the labour force because of an alcohol-attributable disease. This calculation resulted in the total indirect costs of each alcohol-attributable disease, for the latest year available.

STEP



Estimate the health impacts of strengthened alcohol control

Health Impacts. To analyze the impact of policy measures on reducing the health burden of alcohol, the investment case used the UN-Inter Agency Working Group on Costing's OHT. The health impact analysis is carried out through the OHT's Spectrum software and uses the NCD impact module. The current level of implementation of the NCD policy interventions available in OHT were estimated during institutional context analysis (ICA) interviews with key national stakeholders such as NATA. The policy interventions were then scaled up to the maximum level of implementation, except for the tax increase, for which a 50 percent increase in excise tax was modelled. More information on the methodology of the NCD impact module is available online [44].

STEP



Estimate the financial costs of implementing the alcohol control policies and interventions modeled

Costing. The financial costs to the government of scaling-up or intensifying existing alcohol interventions are estimated using the WHO NCD Costing Tool. Two key components in determining the cost of the policy interventions are the current, or baseline, level of implementation of these, and the policy implementation targets to be set for the 20-year modelling period. Full explanations of the price and assumptions embedded in the WHO NCD Costing tool are available online [45].

The Costing Tool uses a "bottom up" or "ingredients-based" approach. In this method, each resource that is required to implement the alcohol control measure is identified, quantified, and priced. The Costing Tool estimates the cost of surveillance, human resources—for programme management, transportation, advocacy, and enacting and enforcing legislation— training and meetings, mass media, supplies and equipment, and other components. Within the Costing Tool, costs accrue differently during four distinct implementation phases: planning (year 1); development (year 2); partial implementation (years 3-5); and full implementation (years 6 and onward).

For the clinical intervention screening, brief interventions and treatment, a specific tool was used, developed by WHO. The rationale behind using two different costing tools is to account for the differences in the nature of the interventions, following discussion with costing experts we decided to use the NCD costing tool for the policy interventions and the WHO alcohol tool for the clinical intervention.

STEP



Estimate the economic value of the policy interventions, and quantify the return on investment (ROI) for the package of alcohol control measures and interventions modeled

Results from the health impact analysis estimating how much alcohol-attributable diseases are reduced from implementing alcohol control policies were the principal input in identifying the economic value of implementing the package of alcohol policies. As the alcohol control package reduces the projected incidence of various alcohol-attributable diseases (e.g., diabetes, stroke, cancer) there is an associated increase in the number of avoided deaths due to alcohol.

The increase in labour force participation caused by avoided deaths was calculated by considering the labour force participation rate in Sri Lanka and the projected number of deaths avoided. Avoided mortality was monetized by multiplying the GDP per worker as outlined above.

It must be noted, however, that the model does not assume that saving a 30-year-old person's life will automatically yield 30 more years of healthy labor. A 30-year-old person has a non-zero chance of dying before turning 60 (age of legal retirement in the formal public sector in Sri Lanka), and as such, the model adjusts down the number of years of working life by the gender and age-specific probability of dying, as individuals are projected to progress through their working years.

The projected economic gains from implementing the alcohol control interventions were measured through the value of avoided presenteeism, the value of avoided absenteeism and the value of avoided mortality. The impact of an intervention, measured as the total increase in GDP, was calculated by combining the three types of gain.

An ROI is a performance measure used to evaluate the efficiency of health-care investment. It compares the magnitude and timing of economic benefits from health interventions directly with the magnitude and timing of investment costs. ROI is the ratio of the discounted (present) value of the benefits to the discounted investment costs. Future costs and benefits are discounted since a unit of currency in the future is worth less than a unit today owing to the time value of money. The ROI analysis was performed using an Excel model that had previously been developed jointly by UNDP and WHO to carry out NCD investment cases.

The ROI for Sri Lanka was arrived at by comparing the economic impact (increase in GDP) of the interventions with the total costs of setting up and implementing the interventions.

It was calculated using the net present value approach to future costs and economic gains, with a three percent discount rate.

$$\text{Return on investment (ROI)} = \frac{\text{Benefits of Intervention/Policy}}{\text{Costs of Implementing Intervention/Policy}}$$

A.2.1 Limitations

In several parts of the investment case, complex methods and specific assumptions were used, which are not described in detail, either here or in the main report. Many are for parameters that could be adjusted to make the results more accurate for the local context, such as estimation of the impact and cost of a certain intervention. Lack of reliable and recent data has been a major barrier to accurately estimating this. Moreover, available tools used in this investment case, such as the OHT possess several limitations, listed below.

Burden analysis

To estimate the years of active labour lost to alcohol-attributable diseases (or the benefits of averting the incidence or mortality of these diseases), we estimated the remaining average years of working life for each age cohort by combining the remaining years of labour with the probability of dying in each 5-year period, for which there is a specific projected mortality risk, as represented in the United Nations life tables for Sri Lanka. There is, however, also a clear non-zero probability of withdrawing from the labour force due to factors unrelated to mortality. We included inability to participate in the labour force due to NCDs in our estimates but could not account for the impact of other diseases on unexpected early retirement. Similarly, we did not include in our model other exogenous economic factors, such as economic downturns, that may lead to long-term unemployment.

Several of the parameters of the estimate of the impact of disease on inability to work, including presenteeism, are from research in high-income countries, where social safety nets and labour laws exist to cushion the blow of illness and support individuals in returning to work, more rapidly and overall. Application to the context of Sri Lanka is not ideal, and further research would be helpful for making estimates that more accurately represent the realities of people with alcohol-attributable diseases in lower middle-income countries who want to return to work.

Costing

The WHO NCD costing tool tends to underestimate costs, omitting certain cost categories related to the health system (e.g., infrastructure) depending on the intervention. It costs staff time by time spent to administer a certain intervention. This does not reflect reality. (e.g., a nurse spending 10 minutes for a brief screening is the 10 minutes of her salary). It typically uses costs associated with WHO-recommended medicines and not what is actually being used in the country. Moreover, the tool was developed over a decade ago, and while key data inputs were adapted to reflect current situation in Sri Lanka, the cost-database is not updated regularly enough to reflect reality.

Health Impacts

The OHT possesses several core limitations in its capacity to estimate the health impacts of strengthened alcohol control. Firstly, the tool has a high minimum threshold for alcohol consumption of three drinks a day. Thus, the tool only estimates the health impact of decreased consumption for drinkers that consume three or more drinks a day. This significantly underestimates the health benefits of scaled-up action, as it ignores the health impacts on people who, for example, may decrease alcohol consumption from 20 to zero drinks a week (i.e., those that consume less than the threshold). Secondly, the tool only considers the links between alcohol and a limited number of diseases (detailed list available online) and does not account for several key alcohol-attributable diseases. Moreover, the tool does not account for the impacts of changing alcohol consumption on road traffic incidents, gender-based violence and other external harms on others caused by alcohol. Overall, these limitations cause an underestimation of the health impact of scaled-up action on alcohol control.

Economic benefits

As the value of a year of employed life is best summed by a year's income, the human capital approach has been applied with data on average incomes in the formal and informal sectors to estimate a median yearly income for the entire working population. Given data constraints on the average income in the informal sector, the model uses a measure of GDP per employed individual as a proxy for average income. This is probably an overestimate, as factors such as income inequality make average values higher than medium values, and the components that enter into GDP, including asset appreciation, are not reflected in individual incomes. Finally, the model only counts productive years as up to 60, the legal retirement age in Sri Lanka. Thus, the model does not account for people over 60 who continue to work.

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