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Investment Case for Tobacco Control in LEBANON

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Investment Case for Tobacco Control in LEBANON

The case for scaling-up WHO FCTC implementation

Investment Case for Tobacco Control in Lebanon

Nearly

9,200

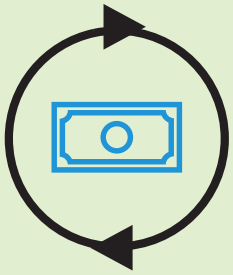
Lebanese citizens die every year due to tobacco-related illness, accounting for

more than a quarter

of all deaths in the country.

Investing now in six proven tobacco control measures will prevent more than

39,500 deaths



and avert

LBP 15.2 trillion

(US$402 million) in economic losses by 2037.

Tobacco-attributable economic losses are about

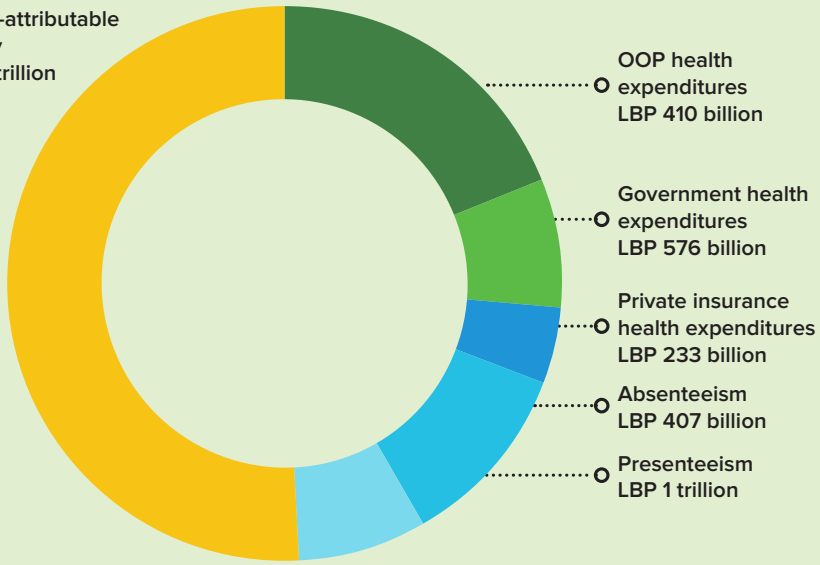
13 times larger

than the government revenue collected from tobacco taxes.

Breakdown of the share of the cost of lost human life, workplace costs, and healthcare costs in 2020

Tobacco-attributable mortality (50%)
LBP 2.7 trillion (US$70 million)

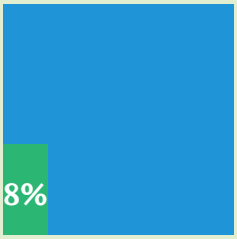
Health-care costs (23%)
LBP 1.2 trillion (US$31 million)



Workplace costs (27%)
LBP 1.5 trillion (US$38 million)

*Figures subject to rounding.

Government tobacco tax revenue as a % of the tobacco burden



Tobacco use costs Lebanon LBP 5.3 trillion (US$140 million) every year, equivalent to 1.9% of annual GDP.

Costs per adult smoker

LBP 2.7 million

per year.

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Special thanks for the support of the National Tobacco Program namely, Fadi Snan, for the team of the Ministry of Finance, namely Bassam Mahdi. Acknowledgement also to the technical support of WHO EMRO namely, Fatimah EL-Awa, Sophia El-Gohary and Sarah Sadek; UNDP team namely, Elfatih Abdelraheem, Daisy Lanvers, Emily Roberts, Rachael Stanton, and Dudley Tarlton and the Secretariat of the WHO FCTC namely, Adriana Blanco Marquizo, Andrew Black, Ryan Forrest and Trinette Lee. Particular thanks go to Ms Nohal Al Homsi, WHO Country Office for coordinating data and revision of the study document at national level.

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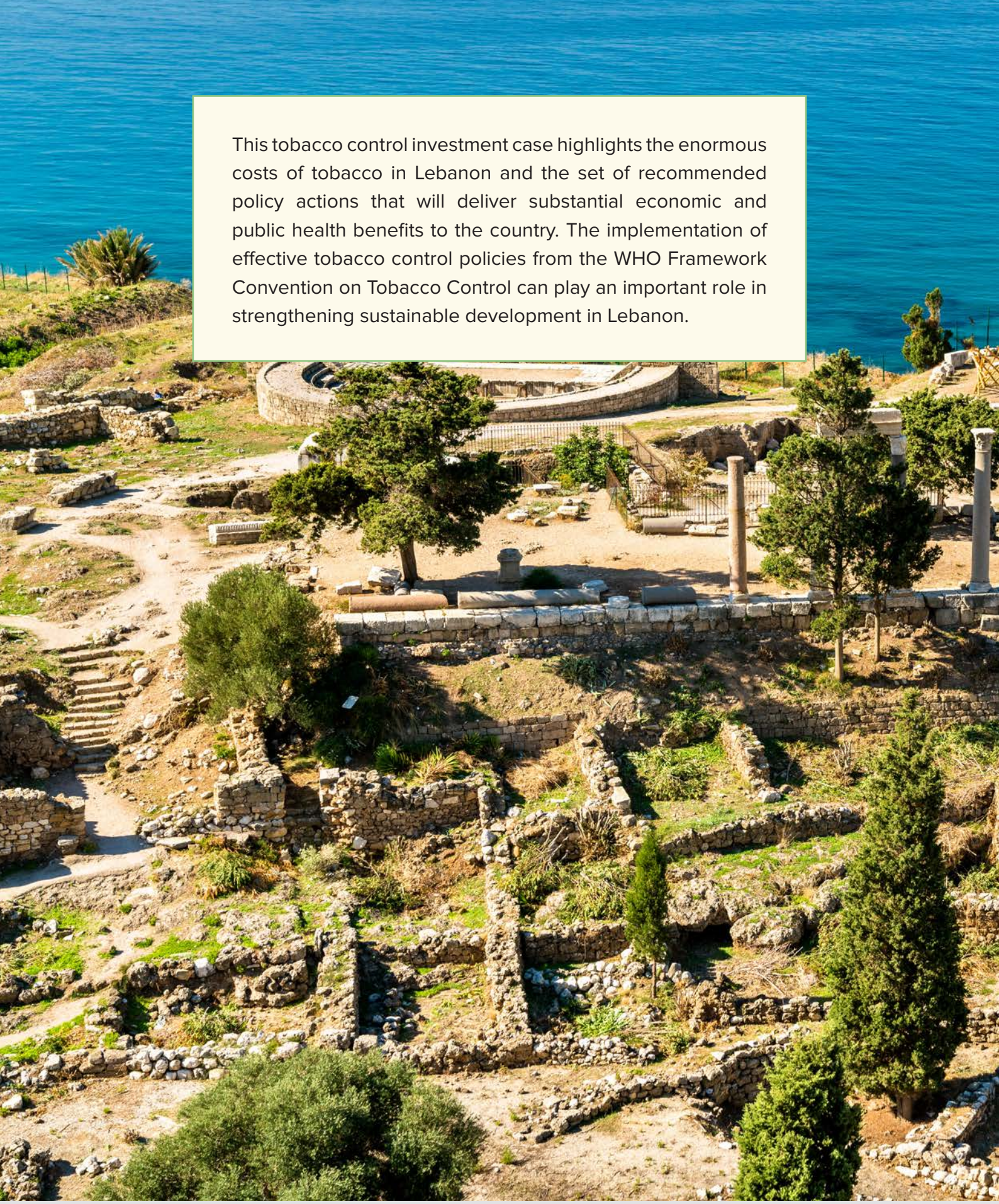
This tobacco control investment case highlights the enormous costs of tobacco in Lebanon and the set of recommended policy actions that will deliver substantial economic and public health benefits to the country. The implementation of effective tobacco control policies from the WHO Framework Convention on Tobacco Control can play an important role in strengthening sustainable development in Lebanon.



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Executive summary

Overview

Tobacco is a is a significant threat to health and sustainable development. Tobacco causes premature death and preventable disease that results in high health costs and economic losses, widens socioeconomic inequalities, and impedes progress across the Sustainable Development Goals (SDGs).

This report summarizes the costs and benefits—in health and economic terms—of implementing six key policy actions of the WHO Framework Convention on Tobacco Control (WHO FCTC) that focus on demand reduction. The six measures are:

1) **Increasing tobacco taxation to reduce the affordability of tobacco products** *(WHO FCTC Article 6)*.
2) **Creating smoke-free public places and workplaces to protect people from the harms of tobacco smoke** *(WHO FCTC Article 8)*.
3) **Requiring graphic warning labels on tobacco product packaging that describe the harms of tobacco use** *(WHO FCTC Article 11)*.
4) **Implementing plain packaging of tobacco products** *(WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13)*.
5) **Promoting and strengthening public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation** *(WHO FCTC Article 12)*.
6) **Promoting of cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use** *(WHO FCTC Article 14)*.

Main findings of the investment case

In 2019, tobacco use in Lebanon imposed around 5.3 trillion Lebanese pound (LBP) (US$140 million)[1] in economic losses. These losses are equivalent to 1.9 percent of Lebanon's gross domestic product (GDP). They include a) **LBP 1.2 trillion (US$31 million)** in direct health-care expenditures, b) tobacco-attributable losses mortality valued at **LBP 2.7 trillion (US$70 million)**, and c) **LBP 1.5 trillion (US$38 million) i**n reduced workforce productivity from absenteeism and presenteeism. Workplace economic losses from current tobacco use in Lebanon, representing **27 percent** of all tobacco-related costs, show how tobacco use impedes development in Lebanon beyond health. Multisectoral engagement is required for effective tobacco control, and other sectors benefit substantially from the implementation of tobacco control measures that create healthier communities and a more productive labour force.

Every year, tobacco use kills nearly 9,200 people in Lebanon, with **43 percent** of these deaths being premature, among people under the age of 70. About **15 percent** of lives lost from tobacco use are due to exposure to secondhand smoke. Deaths from tobacco are entirely preventable.

By acting now, the Government of Lebanon can reduce the national burden from tobacco use. The investment case findings demonstrate that implementing and enforcing six key evidence-based WHO FCTC policy actions would, over the next 15 years (2023-2027):

Save more than 39,500 lives and reduce the incidence of disease. The key WHO FCTC measures would contribute to Lebanon's efforts to achieve SDG Target 3.4 to reduce by one third mortality under age 70 from non-communicable diseases (NCDs) by 2030. Enacting the WHO FCTC measures would prevent **premature deaths** from the four main NCDs – cardiovascular disease (CVD), diabetes, cancer, and chronic respiratory disease – by 2030, in the equivalent of about **28 percent** of the needed reduction in premature mortality to achieve SDG Target 3.4.

1 Modelling for the investment case was done in 2021. The figures were adjusted per inflation in January 2023. US$ conversion was done using a UN operational rate of exchange of 1US$ = LBP 38,000 as of 20 January 2023 https://treasury.un.org/operationalrates/OperationalRates.php#L

Avert LBP 15.2 trillion (US$402 million) in economic losses, coming from:

LBP 4.1 trillion (US$107 million) due to workplace productivity losses. The tobacco-control actions should stimulate economic growth because fewer people 1) miss days of work due to disability or sickness and 2) work at a reduced capacity due to tobacco-related health issues.

- **LBP 3.4 trillion (US$89 million) in savings through avoidance of tobacco-attributable health-care expenditures.**
- Of this, the government would save **LBP 673 billion (US$17.7 million)** in health-care expenditures, citizens would save **LBP 1.6 trillion (US$42 million)** in out-of-pocket health-care costs, with remaining savings accruing to other payers.
- **LBP 7.8 trillion (US$205 million) in averted economic costs from tobacco-attributed mortality.**

Provide a return on investment (ROI) of 86:1.[2] This means that economic benefits **(LBP 15.2 trillion) (US$402 million)** significantly outweigh the costs of implementing the six WHO FCTC policy actions **(LBP 177 billion) (US$4.6 million)**. For each individual measure, increasing cigarette taxes will have the highest return-on-investment (**629:1**), followed by requiring graphic warning labels (**378:1**), implementing plain packaging (**130:1**), public awareness of tobacco control issues (**113:1**), enforcing smoke-free public places and workplaces (48:1), and cessation support through training health professionals to provide brief advice to quit tobacco use (**2:1**).

In addition to these main findings, the investment case analyses the equity implications of increasing cigarette taxes. Increasing cigarette taxes in **Lebanon** will confer social benefits to all, but particularly the poor. Those with lower incomes are more likely to quit smoking when cigarette prices rise, helping them to avoid illness and catastrophic health-care expenditures [1]. Cigarette tax increases would further benefit Lebanese with lower incomes if the resulting government tax revenue were reinvested in further WHO FCTC implementation and national development priorities such as universal health coverage. There is potential for even greater revenue increases from increases in taxes for all tobacco products, not only cigarettes.

2 For every 1 LBP invested in the six key WHO FCTC policy actions today, Lebanon will avert LBP 35 in economic losses by 2027 and LBP 86 by 2037.

Recommendations

This report provides comprehensive recommendations that the **Government of Lebanon** can take to protect public health and realize the benefits of the WHO FCTC as a sustainable development accelerator, and it is not only focused on the key WHO FCTC policy actions modeled in this investment case.

Recommendations

1. **Commit to fully implement the WHO FCTC.**
2. **Strengthen tobacco tax structures and increase tax rates (WHO FCTC *Article* 6).**
3. **Implement and enforce the other five tobacco control policies studied in this investment case:**
   - **create smoke-free public places and workplaces to protect people from the harms of tobacco smoke (WHO FCTC *Article* 8);**
   - **require graphic health warnings on tobacco product packaging that describes the harms of tobacco use (WHO FCTC *Article* 11);**
   - **plain packaging of tobacco products (WHO FCTC *Guidelines for implementation of Article* 11 *and* WHO FCTC *Guidelines for implementation of Article* 13);**
   - **promote and strengthen public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation (WHO FCTC *Article* 12); and**
   - **promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (WHO FCTC *Article* 14).**
4. **Strengthen multisectoral coordination for tobacco control in Lebanon by establishing a national coordination mechanism and bringing together various stakeholders (WHO FCTC *Article* 5.2*a*).**
5. **Develop a national tobacco control strategy for Lebanon (WHO FCTC *Article* 5.1).**
6. **Implement measures to protect public health policies from the commercial and other vested interests of the tobacco industry (WHO FCTC *Article* 5.3).**
7. **Join the Protocol to Eliminate Illicit Trade in Tobacco Products, including by building capacity to combat illicit trade (*Protocol* and WHO FCTC *Article* 15).**
8. **Identify opportunities to link the implementation of the WHO FCTC with wider sustainable development strategies.**

The Secretariat of the WHO FCTC, United Nations Development Programme (UNDP), WHO Regional Office for the Eastern Mediterranean (WHO EMRO), and the World Health Organization (WHO) stand ready to support the Government of Lebanon to reduce the tobacco-induced social, economic, and environmental burdens through the implementation of evidence-based tobacco control laws and policies.

Table ES1. Summary of the main results of the Investment Case for Tobacco Control in Lebanon 2023-2037*

Every year, tobacco use causes:

- Nearly 9,200 deaths.
- LBP 1.2 trillion (US$31 million) in health-care expenditures.
- LBP 1.5 trillion (US$38 million) in workplace productivity losses
- Tobacco-attributable mortality valued at LBP 2.7 trillion (US$70 million).
- Total social and economic losses equivalent to 1.9% of GDP.

Implementing the modeled WHO FCTC measures now would, over the next 15 years:

- Prevent more than 39,500 deaths.
- Save LBP 15.2 trillion (US$402 million) in health-care expenditures.
- Generate economic benefits (LBP 15.2 trillion) (US$402 million) that significantly outweigh costs (LBP 177 billion) of implementation and enforcement – an 86:1 return on investment.
- Prevent LBP 7.8 trillion (US$205 million) in losses due to tobacco-attributable mortality.
- Prevent LBP 4.1 trillion (US$107 million) in workplace productivity losses.

* Figures subject to rounding.

1. Introduction

The tobacco epidemic is one of the greatest public health threats the world has faced, killing more than 8 million people a year, including some 1.2 million deaths from exposure to secondhand smoke [2]. Tobacco use is a main risk factor for non-communicable diseases (NCDs) including cardiovascular disease (CVD), diabetes, cancer and chronic respiratory disease, as well as a cause of many other diseases [3]. In Lebanon, around 38 percent of adults currently use some form of tobacco product, with a higher prevalence among men (48 percent) than women (29 percent) [4]. Tobacco use causes nearly 9,200 deaths every year [5]; about 43 percent of them are premature, occurring among those under age 70 [5].

In addition to the cost to health and well-being, tobacco also imposes a heavy economic burden throughout the world. A 2018 study (based on 2012 data) found that the costs of smoking[3] were equivalent to 1.8 percent of the world's annual gross domestic product (GDP). Almost 40 percent of the costs occurred in developing countries, highlighting the substantial burden these countries suffer [6].

Tobacco use reduces productivity by permanently or temporarily removing individuals from the labour market due to poor health [7]. When people die prematurely, the labour output that they would have produced in their remaining years is lost. In addition, people in poor health are more likely to miss days of work (absenteeism) or to work at a reduced capacity while at work (presenteeism) [8], [9]. The labour and health consequences affect not only smokers, but also the people in their households who often need to take time off from work to care for those with tobacco-related diseases.

Tobacco use may displace household expenditure that would otherwise go to fulfilling basic needs, including food and education [10]–[12], and it contributes to hunger and impoverishment of families [13], [14]. The use of tobacco imposes health and socio-economic challenges on vulnerable populations including the poor, women and young people [15].

Tobacco production causes environmental damage including soil degradation, water pollution, and deforestation. Tobacco's annual climate change impact is comparable to entire countries' emissions and represents 0.2 percent of the global total. As a result of the shift of tobacco production from richer countries to lower income countries its environmental impacts are now mostly borne by developing regions. By depleting these countries' valuable resources, and polluting and damaging their ecosystems, tobacco puts their livelihoods and development at risk [16]–[18].

3 Defined as either "direct costs" such as hospital fees or "indirect costs" representing the productivity loss from morbidity and mortality.

Given the far-reaching health and development impacts of tobacco, and the multisectoral nature of the interventions required, effective tobacco control needs the engagement of non-health sectors to be operating in support of a whole-of-government and whole-of-society approach to policy making and implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC).

The WHO FCTC was developed in response to the globalization of the tobacco epidemic and is an evidence-based treaty that reaffirms the right of all people to the highest standard of health. The Convention represents a milestone for the promotion of public health and provides new legal dimensions for international health cooperation. Lebanon became a Party to the treaty in 2006 [19].

The Protocol to Eliminate Illicit Trade in Tobacco Products is an international treaty that builds upon Article 15 of the WHO FCTC, with the objective of eliminating all forms of illicit trade in tobacco products through a package of measures to be taken by countries acting in cooperation with each other. Lebanon is not currently a Party to the Protocol.

Tackling tobacco use across the world is a priority within the 2030 Agenda for Sustainable Development. Tobacco control is relevant to the achievement of many Sustainable Development Goals (SDGs), particularly SDG Target 3.4 that calls for action to achieve a one-third reduction in premature mortality from NCDs by 2030. Target 3.a is a means of implementation of SDG 3.4 and calls for strengthened implementation of the WHO FCTC. But beyond health, tobacco control is also a proven approach to reduce poverty and inequalities, strengthen and expand the economy and advance sustainable development more broadly. Tobacco control is an SDG accelerator as it can contribute to many goals simultaneously across the economic, social, and environmental spheres [20]. In addition, reducing tobacco use is a one of the nine targets of the *WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013-2030* (NCD GAP) [21].

The NCD GAP includes a target for reducing the global prevalence of tobacco use by 30 percent by the year 2025 relative to 2010. Lebanon is not on track to reach this target; in fact, according to the WHO global report on trends in prevalence of tobacco use 2000–2025, Lebanon is one of six countries globally in which tobacco use is expected to rise if national tobacco control policies and their implementation remain at status quo level [22].

Box 1. 2030 Agenda for Sustainable Development

In 2015, all UN Member States adopted the 2030 Agenda for Sustainable Development, outlining actions to achieve greater peace and prosperity. The core components of the Agenda are the 17 SDGs which are an urgent call for all countries to act together, recognizing that efforts to address poverty, inequalities, health, education, economy and climate change must be undertaken in unison [23].

Since joining the WHO FCTC as a party in 2006, Lebanon passed Law No. 174 Tobacco Control and Regulation of Tobacco Products' Manufacturing, Packaging and Advertising in 2011, which is the country's primary legislation on tobacco. The law creates smoke-free indoor public places and public transportation, comprehensively bans tobacco advertisement, promotion and sponsorship (TAPS), mandates health warnings on all tobacco products, and prohibits the sale of tobacco products to minors, among other measures [24]. Lebanon has demonstrated leadership in the implementation of tobacco control policies, outpacing global implementation in several areas (see **Figure 2**). However, several demand reduction measures within the WHO FCTC remain to be implemented and some require strengthening. Opportunities for Lebanon to improve implementation of the WHO FCTC include: increasing tobacco taxation, strengthening enforcement of smoke-free laws, implementing graphic warnings and plain packaging on all tobacco products, and promoting and strengthening public awareness of tobacco control issues.

In 2016 Lebanon undertook a WHO FCTC Needs Assessment that made recommendations for the country to accelerate implementation of the Convention by creating a multisectoral coordinating committee on tobacco control, fully enforcing tobacco control legislation, increasing tobacco taxation, meeting WHO FCTC guidelines for health warnings and including tobacco control to support achievement of the SDGs [25]. Realizing the full benefits of all of the above measures depends on concerted and coordinated efforts from multiple sectors of government with support from civil society.

In 2021, the Secretariat of the WHO FCTC, UNDP, and WHO undertook a virtual joint mission with partners in Lebanon to initiate this investment case.

Investment cases for tobacco control analyse the health and economic costs of tobacco use as well as the opportunities for potential gains from scaled-up implementation of key WHO FCTC measures. It identifies which WHO FCTC demand reduction measures are likely to produce the largest health and economic returns for Lebanon based on the return on investment (ROI). Taking into account the current implementation of WHO FCTC measures in Lebanon, the investment case models the impact of the following six key WHO FCTC provisions:

1. **Increase tobacco taxation to reduce the affordability of tobacco products** (*WHO FCTC Article 6*)
2. **Create smoke-free public places and workplaces to protect people from the harms of tobacco smoke** (*WHO FCTC Article 8*)
3. **Require graphic warning labels on cigarette packaging to warn of the dangers of tobacco use** (*WHO FCTC Article 11*)
4. **Implement plain packaging**[4] **of tobacco products** (*WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13*)
5. **Promote and strengthen public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation** (*WHO FCTC Article 12*)
6. **Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use** (*WHO FCTC Article 14*)

Chapter 2 of this report provides an overview of tobacco control in Lebanon, including tobacco use prevalence as well as challenges and opportunities. **Chapter 3** summarizes the methodology of the investment case (see the annex on methodology and the separate Technical Appendix, available upon request, for more detail). **Chapter 4** reports the main findings of the economic analysis. **Chapter 5** details the results of complementary analyses examining the impact of increasing cigarette taxes on government revenue, as well as the projected impact on government revenue. Further, it also details the contribution of the WHO FCTC demand reduction measures to meeting SDG Target 3.4 to reduce premature mortality due to NCDs by one third by 2030. **Chapter 6** summarizes the results and provides recommendations to the government to further tobacco control. The annex provides information on the methods underlying the various analyses described in the report.

4 Plain (or standardized) packaging is defined as "measures to restrict or prohibit the use of logos, colours, brand images or promotional information on packaging other than brand names and product names displayed in a standard colour and font style". Further information is available at: Guidelines for implementation of Article 11 of the WHO Framework Convention on Tobacco Control (decision FCTC/COP3(10)) November 2008, available at: https://fctc.who.int/publications/m/item/packaging-and-labelling-of-tobacco-products, and Guidelines for implementation of Article 13 of the WHO Framework Convention on Tobacco Control, available at: https://fctc.who.int/who-fctc/overview/treaty-instruments/tobacco-advertising-promotion-and-sponsorship

2. Tobacco control in Lebanon: status and context

2.1 Tobacco use prevalence, social norms, and awareness-raising

IIn Lebanon, 38 percent of the adults (18-69 years old) are current smokers, according to the most recent WHO STEPwise approach to surveillance (STEPS) survey conducted in 2016-2017. Smoking prevalence is higher among men (48 percent) than women (29 percent). Among current smokers, the majority (76 percent) smoked daily, and 82 percent of daily smokers consume more than 10 cigarettes per day. Exposure to secondhand smoke is also an issue as 44 percent of the population are exposed to secondhand smoke at work and 39 percent are exposed to secondhand smoke in the home [4].

Tobacco use is also prevalent among young people. According to the most recent Global Youth Tobacco Survey conducted in 2011, 36 percent of youth 13-15 years old currently use any smoked tobacco product, with a higher prevalence among boys (42 percent) than girls (31 percent) [26]. Waterpipe use is common, with 35 percent of respondents reporting that they currently smoke water-pipe, and 11.3 percent reporting that they currently smoke cigarettes [26]. Adolescents in Lebanon are also exposed to secondhand smoke at concerning rates, with almost 7 in 10 students 13-15 years old living in homes where others smoke cigarettes and more than six in 10 exposed to secondhand smoke outside of the home [26].

Making tobacco products less affordable is one of the best ways to control tobacco use, and young people are particularly sensitive to the price of tobacco [27]. Higher tobacco prices from tax increases can make smoking too costly for young people and reducing the incentive to start or continue to smoke. A 2021 study demonstrated that higher tobacco prices, such as through tax increases, are associated with a decreased risk of smoking initiation among youth and young adults [28].

Box 2. Tobacco and gender

While worldwide women and girls tend to use tobacco at lower rates than men, they can still be subjected to the harms of tobacco use—including exposure to secondhand smoke [29] and the effects of household income diverted to tobacco use. Since tobacco use prevalence is often lower for women than men, the tobacco industry see this as an opportunity to scale up marketing targeted at women and girls [30]. While tobacco use prevalence in Lebanon is higher among men than women, like in many countries, tobacco use among women in Lebanon ranks highest in all of the Eastern Mediterranean region and fourth highest in the world [31]. Tobacco use among women in Lebanon is increasing – as female teenage students use tobacco at greater rates than adult women (31 and 29 percent respectively) [4], [26] This is concerning as recent trends suggest tobacco use is increasing among girls in many countries of the world [32].

Box 3. Tobacco and pregnancy

Tobacco use during pregnancy imposes significant health risks on the fetus, infant and mother. It increases the likelihood of miscarriages, stillbirths, preterm births, low birth weight, birth defects, and sudden infant death syndrome, among others [33], [34]. Exposure to secondhand smoke during pregnancy also increases the risks of having low birthweight babies, in turn increasing the risk of a mother and child developing health issues [34]. Mothers face additional health risks as pregnant smokers are more likely to experience heart and lung complications than pregnant nonsmokers [35]. Despite the strong evidence, the tobacco industry continues to aggressively target women and girls [34]. It is estimated that the global prevalence of smoking during pregnancy is 1.7 percent [36]. In Lebanon 70 percent of pregnant women are exposed to secondhand smoke and almost a quarter of women continue to smoke during their pregnancy [37].

2.2 National tobacco control legislation, strategy and coordination

Lebanon became a Party to the WHO FCTC in 2006. Since then, Lebanon has made strong progress in tobacco control. In 2011, Lebanon passed comprehensive national tobacco control legislation in the form of Law No. 174 Tobacco Control and Regulation of Tobacco Products' Manufacturing, Packaging and Advertising. The legislation creates smoke-free indoor public places and public transportation; enacts a comprehensive TAPS ban; mandates health warnings on all tobacco products; prohibits the sale of tobacco products to minors, the sale of less than 20 cigarettes, and the provision of free samples of tobacco products, among other measures [24].

In 2013, under Ministerial Decision No.1/207 Concerning Withdrawal and Banning of Importation and Trading of E-cigarettes and E-waterpipes, Lebanon banned e-cigarettes [38]

but in 2015, the Ministry of Finance passed a decree to regulate the importation, sale and taxation of e-cigarettes, as well as applicable fines for not abiding by the policy [39]. In 2020, a memo was issued by the Minister of Interior and Municipalities banning water-pipes (shisha) in restaurants to prevent COVID-19 [40].

A National Tobacco Control Programme (NTCP) was established in 1997 as a joint initiative of the Ministry of Public Health (MoPH) and WHO. The mission of the NTCP includes activities relating to prevention, cessation, protection from secondhand smoke, and awareness-raising. The NTCP lacks a current action plan and would be strengthened by a specific action plan and an updated national strategy, plan and programme [25]. There is an established tobacco control focal point in the MoPH, however the focal point is also responsible for other technical programmes. Therefore Lebanon would benefit from adding full-time staff for tobacco control activities [25].

Despite progress in establishing tobacco control coordination, policies and regulations, there remains WHO FCTC and Protocol obligations that are not yet fully implemented in the country.

Limited political will, lack of coordination and scarce available funds have contributed to low levels of enforcement of existing legislation and tobacco control measures [40]. MoPH, the Ministry of Tourism, the Ministry of Economy and Trade, and the Ministry of Interior and Municipalities are responsible for implementing Law No. 174, however a lack of clear roles and responsibilities has resulted in inefficient and limited enforcement. According to the ministries responsible for enforcement, there are insufficient resources and officers to monitor implementation effectively [40]. Ongoing political and economic stability have exacerbated difficulties for strengthening tobacco control measures in the country. Establishing and sustainably financing a national multisectoral coordination mechanism (NCM) and developing a national tobacco control strategy with clear roles and responsibilities for sectors would strengthen Lebanon's national tobacco control response.

2.3 The status of WHO FCTC demand reduction measures

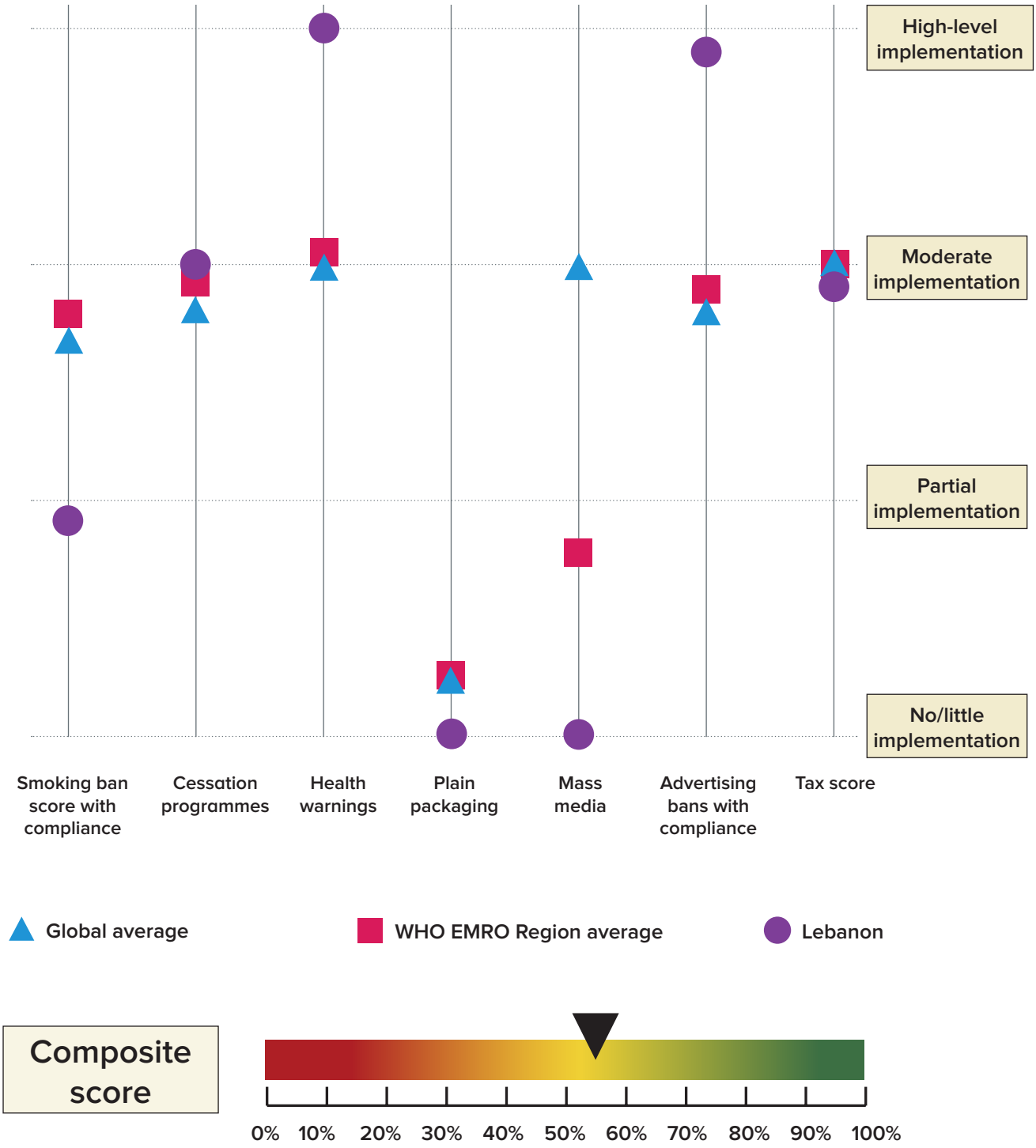
Strong fiscal and regulatory measures influence societal norms by signalling to the population that tobacco use is harmful, not only for users but for the people around them—including family, colleagues, and co-workers.

While Lebanon has demonstrated progress to implement key demand reduction measures, over 1.9 million Lebanese continue to smoke [4], [41]. Implementing additional demand reduction measures or intensifying existing ones can draw Lebanon into closer alignment with the WHO FCTC and reduce the substantial costs imposed by tobacco use. The status of each of the key WHO FCTC demand reduction measures in relation to WHO FCTC recommendations is discussed.

Figure 1 summarizes the status of tobacco control demand reduction measures in Lebanon from the WHO Report on the Global Tobacco Epidemic, 2021 [42] and, for each, progress toward meeting WHO FCTC obligations. Overall, Lebanon is assessed to be 44 percent of the way toward fulfilling the key WHO FCTC demand reduction measures, below the global average of 53 percent and below the EMRO regional average of 54 percent.[5]

5 This composite score represents a status quo implementation level of tobacco control demand reduction measures developed by economists intentionally for tobacco control investment cases.

Fig. 1: Implementation of WHO demand reduction measures in Lebanon



Source: WHO Report on the Global Tobacco Epidemic, 2021 [42]

1. Increase tobacco taxation to reduce the affordability of tobacco products *(WHO FCTC Article 6)*

Lebanon currently has a total tax rate on cigarettes that accounts for 9.9 percent of the retail price of the most sold cigarette brand, comprised of only a value added tax. There is no specific excise tax for tobacco in Lebanon [42]. Additionally, smokeless tobacco products are not taxed. Tobacco tax rates in Lebanon do not take into account changes in household incomes and inflation [43]. In 2019, MoPH announced that there would be a pricing increase amongst tobacco products [40]. Following this announcement, investment case interviews report that there were no direct increases in price, but fees for licenses were imposed on hotels and restaurants. In addition, a plan to increase taxes was discussed, but was never realized due to different factors including political blockage, a change in government in 2018, as well as the COVID-19 pandemic.

In Lebanon, the Regie Libanaise de Tabacs et Tombacs (RLTT), a public company working under the Ministry of Finance, manages the cultivation, manufacturing, distribution and sale of tobacco in Lebanon and sets the wholesale and retail prices of tobacco [44]. There has been no significant change in the affordability of cigarettes from 2008 to 2018 [43]. However, in 2020, cigarettes became less affordable compared to 2018 [42]. In Lebanon, cigarettes are more expensive than in some neighbouring countries but cheaper than in Jordan. Lebanon's water-pipe tobacco is cheaper than that of the Islamic Republic of Iran, Jordan, and Libya. The sale of duty free (or excise free) cigarettes is not banned [45].

There is substantial scope for action to reach what is considered in the *WHO Report on the Global Tobacco Epidemic* as a high-level of achievement, which is for total taxes to represent at least 75 percent of the retail price [42]. On tax design for tobacco products, WHO makes a number of recommendations including that governments should rely more on specific tobacco excises to drive price increases (rather than rely only on ad valorem excises), increase tobacco taxes significantly to reduce the affordability of tobacco products and automatically adjust specific tobacco taxes for inflation and income growth [46].

The investment case examines the impact of raising cigarette taxes to levels considered in the *WHO Report on the Global Tobacco Epidemic, 2021* as a high-level of achievement [42]. It models introducing a specific excise tax alongside Lebanon's current tax structure, increasing the specific excise tax in real terms from current rates (LBP 0 per pack) to LBP 1,130 in 2027 (see the annex on methodology for detailed information). Further economic gains will be made in Lebanon with substantial tax increases on all tobacco products.

2. Create smoke-free public places and workplaces to protect people from the harms of tobacco smoke *(WHO FCTC Article 8)*

Enclosed public places (including restaurants, nightclubs or any place of tourism or entertainment), workplaces and means of public transportation are smoke-free in Lebanon. However, hotels are allowed to allocate 20 percent of room capacity for smokers. The smoke-free policy gave one year for sectors to prepare before coming into effect in September 2012. In the immediate months following, implementation was strongly enforced with an estimated 90 percent compliance, however several months later implementation and enforcement was relaxed [47]. Compliance with smoke-free policies remains a challenge, particularly in government facilities, indoor workplaces, cafes, pubs and bars and public transportation [43]. Despite smoke-free legislation, MoPH was also not declared a smoke-free Ministry until 2019 [40]. Exposure to secondhand smoke at work also continues to be an issue with around 39 percent of people in Lebanon exposed to secondhand smoke in the workplace [48].

The investment case examines the impact of **enacting and enforcing comprehensive smoke-free measures for all indoor public places and workplaces.**

3. Require tobacco packaging to carry graphic health warnings describing the harms of tobacco use *(WHO FCTC Article 11)*

As prescribed by Law No.174, textual health warnings on tobacco products are required to cover at least 40 percent of front and rear of the total surface. Additionally, Law No. 174, permitted MoPH and the Ministry of Finance to issue a decree to include images in health warnings covering 40 percent of each side [24]. The Council of Ministers instated Decree No. 8991 to require health warnings on all tobacco products, covering 40 percent of packaging [49]. As of July 2023, there is pending legislation from the Council of Ministers, Decree No. 27, to stipulate pictorial health warnings. This is not yet ratified, and as such it is not reflected in the modelling of the investment case.

The investment case examines the impact of mandating that at least 50 percent of the front and back of each and every tobacco package is covered with graphic health warnings and that the photos are rotated on a regular basis.

4. Implement plain packaging of tobacco products *(WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13)*

Plain packaging is not currently mandated in Lebanon. The investment case models the impact of implementing and enforcing plain packaging requirements.

5. Promote and strengthen public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation *(WHO FCTC Article 12)*

While there have been efforts to strengthen public awareness through regional campaigns and events for World No Tobacco Day 2021 [50], there was no national campaign conducted between July 2018 and June 2020 with a duration of at least three weeks [43]. The investment case examines implementing a best-practice mass media campaign in Lebanon.

6. Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (TAPS) *(WHO FCTC Article 13)*

There is a comprehensive ban on direct advertising which has high compliance. Lebanon also has a near complete ban on indirect advertising, but promotional discounts are permitted [42]. Investment case interviews indicate the ban on indirect advertising is not well implemented. Lebanon received a score of 9 out of 10 for compliance of advertising bans in the WHO Report on the Global Tobacco Epidemic, 2021 [42], leaving little room for improvement.

Given the existing good level of implementation in Lebanon of this policy area, this intervention has not been modeled in the investment case.

7. Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit smoking *(WHO FCTC Article 14)*

Smoking cessation support is available in some private health clinics but is not available in primary health-care facilities, hospitals or the offices of other health professionals. The national health insurance only partially covers the cost of cessation support. Nicotine replacement therapy (NRT) is not currently sold in the

country and is not included on the essential drugs list. There is not currently a national toll-free quit line in Lebanon [43].

The provision of brief advice to tobacco users from health-care professionals whenever they access health-care services – especially in the primary care setting – is also shown to be effective in increasing successful tobacco cessation [51] and represents a useful early step in rolling out support for tobacco users to quit. The investment case models the impact of training primary care health providers to identify tobacco users and to provide tobacco cessation advice (see the annex on methodology for detailed information). Further gains would be possible with the provision of further support to tobacco users, such as a national toll-free quit line and making pharmacotherapies more widely available (free of cost, if possible).

Table 1 summarizes the existing state of WHO FCTC demand reduction measures and compares them against a target that would represent a best practice of implementation for each measure. The impact of each policy measure—individually and in combination—is described in **Annex Table A4**.

Photo: UNDP

Table 1: Summary of the current state of WHO FCTC demand reduction measures in Lebanon and modeled implementation targets based on the *WHO Report on the Global Tobacco Epidemic*, 2021 [42]

Tobacco control policy	Lebanon baseline	Modeled implementation target
Increase tobacco taxation to reduce the affordability of tobacco products *(WHO FCTC Article 6)*	Total tax share equivalent to 9.91% of the retail price of the most sold brand of cigarettes.	Increase total taxes on cigarettes to at least 75% of the retail price and specific excise taxes to at least 70% of the retail price. Implement regular tax increases to outpace inflation and income growth.
Create smoke-free public places and workplaces to protect people from the harms of tobacco smoke *(WHO FCTC Article 8)*	Most public places and workplaces are smoke-free, but hotels are permitted to allocate 20% of room capacity for smokers. However enforcement remains a challenge, particularly in government facilities, indoor workplaces, cafes, pubs and bars and public transportation [43].	Enact and enforce comprehensive smoke-free requirements for indoor public places and workplaces.
Require graphic health warnings on tobacco product packaging that describes the harms of tobacco use *(WHO FCTC Article 11)*	Graphic health warnings were not mandated at the time of modelling. Only textual health warnings on tobacco products covering at least 40% of front and rear of principal display areas were mandated.[6]	Mandate graphic, rotating health warnings ensuring at least 50% of cigarette packing is covered by graphic warning labels.
Implement plain packaging of tobacco products *(WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13)*	Plain packaging requirements are not currently in place.	Implement and enforce plain packaging of tobacco products.
Promote and strengthen public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation *(WHO FCTC Article 12)*	There has been no national campaign conducted between July 2018 and June 2020 with a duration of at least 3 weeks.	Implement a nationwide anti-smoking mass media campaign incorporating WHO best practices.
Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use *(WHO FCTC Article 14)*	Cessation support is currently available in some private clinics and community settings, but not in hospitals or the offices of other health professionals. There is no national toll-free quit line or NRT available.	Expand training of primary health-care providers to identify tobacco users and to provide tobacco cessation advice; implement the provision of tobacco cessation services at the primary care level.

Source: WHO Report on the Global Tobacco Epidemic, 2021 [42]

6 After the economic modelling was done, the Council of Ministers approved a decree to include the terms "all tobacco products and its substitutes" on health warnings. As of July 2023, there is pending legislation from the Council of Ministers to stipulate pictorial health warnings. This is not yet ratified, and as such it is not reflected in the modelling of the investment case.

2.4 Tobacco use and the COVID-19 pandemic

The global coronavirus disease (COVID-19) pandemic has strained health systems worldwide, and the economic impact of the outbreak has been immense. According to WHO, evidence indicates that smokers are more likely to suffer more severe outcomes of COVID-19, such as admission into intensive care units and death, than never smokers. Furthermore, severe forms of COVID-19 or deaths due to COVID-19 are more frequent in people with comorbidities that are related to tobacco use, including chronic obstructive pulmonary disease, lung cancer and cardiovascular diseases [52]. Moreover, tobacco use is also proven to worsen the outcomes of other communicable diseases such as tuberculosis and HIV [53]. In Lebanon, when hospitality venues were reopened in 2020 after being closed due to the pandemic, a memo was issued by the Minister of Interior and Municipalities banning water-pipe (shisha) to prevent COVID-19 transmission [40].

2.5 Financing

The diversified health care system in Lebanon consists of a mix of public and private payers and providers. General government revenues, social security contributions, and private sector contributions are all utilized to fund health care. Total current health expenditure accounts for 8.7 percent of national GDP. Government spending accounts for 49 percent of health expenditure, while 34 percent is from out-of-pocket (OOP) payments [54].

Funding is among the critical challenges to the implementation of Law No. 174. Ministries responsible for implementing and enforcing tobacco measures have citied limited resources as an impediment to enforcement. This is likely to be exacerbated by the current economic situation in the country. In Lebanon, the latest government's expenditure for tobacco control was reported in 2007 at about US$30,000 per year [43]. However, investment cases interviews with country colleagues in 2023 indicate that there are not currently expenditures on tobacco control in Lebanon and haven;t been for the past 10 years. In comparison, the tobacco control expenditures of other countries in the region are much greater: Kuwait (US$78,000 per year); Qatar (US$500,000 per year); Jordan (US$120,000 per year); and Saudi Arabia (US$4,800,000 per year) [40]. The annual economic burden of tobacco in Lebanon is more than 48,000 times greater than the current expenditure for tobacco control.

2.6 Illicit trade in tobacco products

Illicit trade in tobacco products poses a serious threat to public health. Illicit trade increases the accessibility and affordability of tobacco products, thus fuelling the tobacco epidemic and undermining tobacco control policies. It also causes substantial losses in government revenues, and at the same time contributes to the funding of transnational criminal activities [55]. Despite the tobacco industry's claims, changes in illicit tobacco trade levels are very loosely connected with changes in tobacco taxes. Evidence suggest that increasing tobacco taxes does not necessarily lead to higher rates of illicit tobacco [56].

While, tobacco products in Lebanon are required to have markings to determine the origin of the product and if it is legally sold on the domestic market, Lebanon does not have information on the size of illicit tobacco market, nor does it have a tracking and tracing system [57].

Lebanon is not a Party to the Protocol to Eliminate Illicit Trade in Tobacco Products, a crucial step to take to combat illicit trade [58]. The Protocol supplements the WHO FCTC with a comprehensive tool to counter and eventually eliminate illicit trade in tobacco products and to strengthen legal dimensions for international health cooperation.

2.7 Tobacco industry presence and interference in policymaking

The history of tobacco industry interference in Lebanon dates back to at least the 1970s [59]. The Regie, a state-owned entity under the Ministry of Finance's authority, has exclusive rights to manufacture, export, and import tobacco in Lebanon [40]. Lebanon does not have legislation or policies in place protect public health policies from the vested interests of the tobacco industry as required by the WHO FCTC. There is evidence that the tobacco industry in Lebanon has a direct influence on tobacco control legislation [40], [59].

For example, Law No. 174, passed in 2011, permitted MoPH and the Ministry of Finance to issue a decree to include images in health warnings [24]. A decree was developed in 2011 and subsequently updated in 2016, butit is reported that prolonged industry interference (including via lobbying) delayed this decree from being approved [40]. Furthermore, during the COVID-19 pandemic, the tobacco industry advanced corporate social responsibility (CSR) activities, including making donations at a Cabinet meeting in March 2020 which was then publicized by the industry [60].

Lebanon recently saw a modest improvement in its Global Tobacco Industry Interference[7] Index score and now ranks 60th out of the 90 countries analysed (moving from a score of 72 in 2021 to 46 in 2023, in a ranking system where a lower score indicates less interference) [60].

Lebanon has an opportunity to go further with action to address the tobacco industry's negative influence on health and sustainable development through full implementation of the WHO FCTC.

7 The Global Tobacco Industry Interference Index measures efforts by governments to address tobacco industry interference: It is accessible at https://globaltobaccoindex.org/

Photo: © Freepik.com

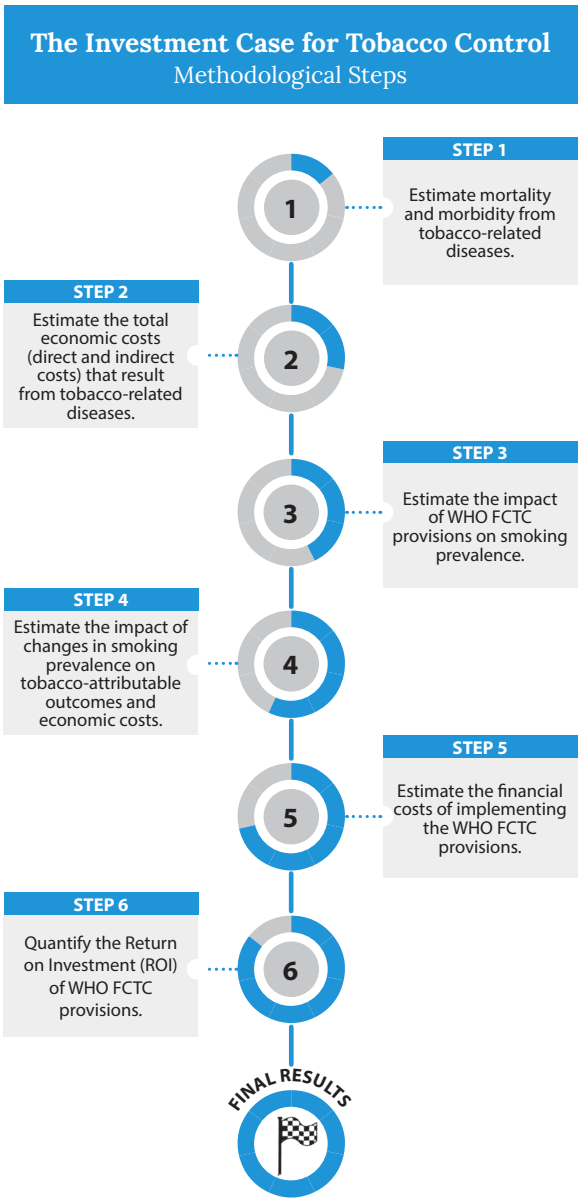
3. Methodology

The purpose of the investment case is to quantify the current health and economic burden of tobacco use in Lebanon (in the context of WHO FCTC measures that are currently in place), and to estimate the impact that implementing new WHO FCTC measures—or strengthening existing ones—would have on reducing this burden. A static model was developed to conduct the investment case and to perform the methodological steps in **Figure 2**. This methodology has been used for previous national WHO FCTC investment cases under the WHO FCTC 2030 project.The tools and methods used to perform these steps are described in this report's annex on methodology. Interested readers are also referred to this report's separate *Technical Appendix* for a more thorough account of the methodology.

The investment case team worked with the MoPH and other stakeholders in Lebanon to collect national data inputs for the model. Where data was unavailable from government or other in-country sources, the team utilized publicly available national, regional, and global 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's (IHME), and academic literature.

Within the investment case, costs and monetized benefits are reported in constant 2020 Lebanese pounds (LBP) and discounted at an annual rate of 5 percent.

Fig. 2: Building the investment case



4. Results

4.1 The current burden of tobacco use: health and economic costs[8]

In 2019, tobacco use caused an estimated 9,187 deaths in Lebanon, 43 percent of which were premature, i.e. occurred among those under 70 years [61]. These deaths amount to 141,221 years of life lost (YLLs) which are lost productive years in which many of these individuals would have contributed to the workforce [61]. Monetizing years of life lost due to tobacco use by applying an estimate of the value of a statistical life year (VSLY) to each year of life lost, the investment case identifies LBP 2.7 trillion (US$70 million) in losses due to tobacco-attributable mortality.[9]

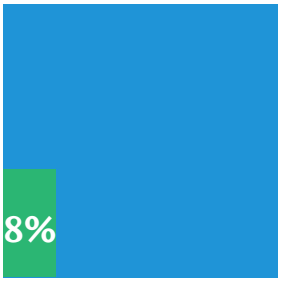
While the costs from tobacco-attributable mortality are high, the consequences of tobacco use begin long before death. As individuals suffer from tobacco-attributable diseases (e.g. cardiovascular disease, respiratory conditions, cancers), expensive medical care is required to treat them. Spending on medical treatment for illnesses caused by smoking cost the government LBP 576 billion in 2020 and caused Lebanese citizens to spend LBP 410 billion in OOP health-care expenditures. Private insurance and non-profit institutions serving households spent LBP 233 billion treating tobacco-attributable diseases in 2020. In total, health-care expenditures attributable to smoking amounted to LBP 1.2 trillion (US$31 million). In addition to health-care costs, as people become sick, they are more likely to miss days of work (absenteeism) or to be less productive at work (presenteeism). In 2020, the cost of excess absenteeism due to tobacco-related illness was LBP 407 billion and the cost of presenteeism due to cigarette smoking was LBP 1 trillion.

In total, tobacco use caused LBP 5.3 trillion (US$140 million) in economic losses in 2020, equivalent to about 1.9 percent of Lebanon's 2020 GDP. **Figure 3** summarizes the current burden of tobacco use and contextualizes the losses. The burden of tobacco use exceeds the revenue the government currently collects from taxing tobacco products. Tobacco-attributable economic losses are about 13 times larger than the collected government revenue. There are LBP 2.7 million in economic losses per adult smoker.

8 In assessing the 'current burden' of tobacco use, the economic costs of lost human life include the cost of deaths due to any form of exposure to tobacco (including smoking, secondhand smoke, and the use of other types of tobacco products). Only smoking-attributable (not tobacco-attributable) costs are calculated for healthcare expenditures, absenteeism, and presenteeism. While other forms of tobacco may also cause losses in these categories, no data is available to precisely ascertain those losses.

9 Modelling for the investment case was done in 2021. The figures were adjusted per inflation in January 2023. US$ conversion was done using a UN operational rate of exchange of 1US$ = LBP 38,000 as of 20 January 2023 https://treasury.un.org/operationalrates/OperationalRates.php#L

Fig. 3: Contextualizing the Burden of Tobacco Use in Lebanon, 2020[10]



Government tobacco tax revenue as a % of the tobacco burden

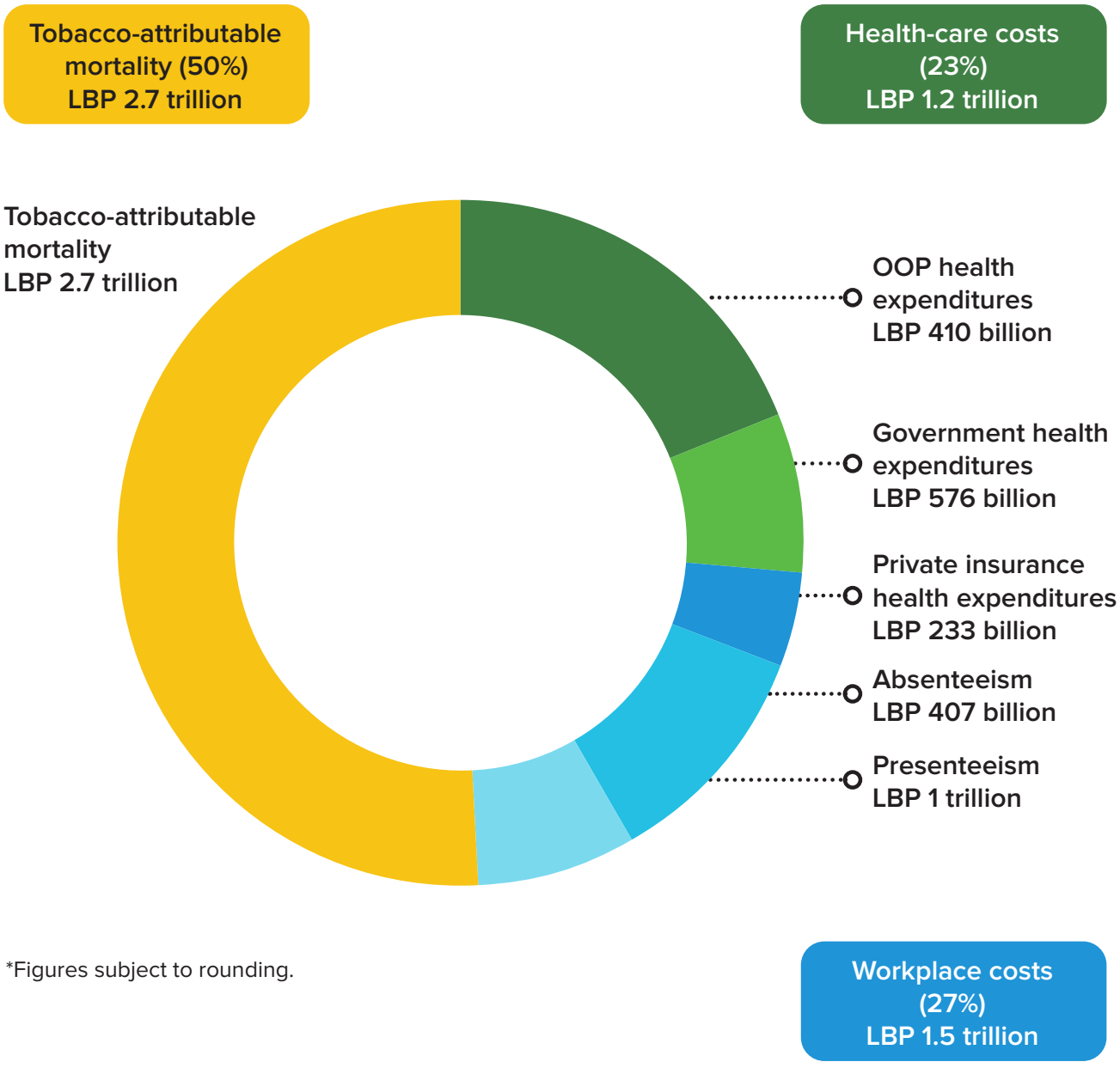
Costs per adult smoker
LBP 2.7 million

Tobacco costs Lebanon LBP 5.3 trillion every year, equivalent to 1.9% of annual GDP

10 Figures subject to rounding, Tax revenue comparisons are provided for context and are not meant to suggest that taxes should be increased to levels that equalize revenue with the tobacco burden. Government tobacco tax revenue (LBP 36 billion in 2020) and the retail price of the most sold brand are from WHO Global Tobacco Control Report 2021 (analysts added estimated VAT taxes to the 28.7 billion specific excise taxes reported in the GTCR). The number of licit cigarette packs sold (34.3 million) is estimated by dividing total specific excise tax revenue by the specific excise tax per pack of cigarettes, as reported in the 2020 GTCR.

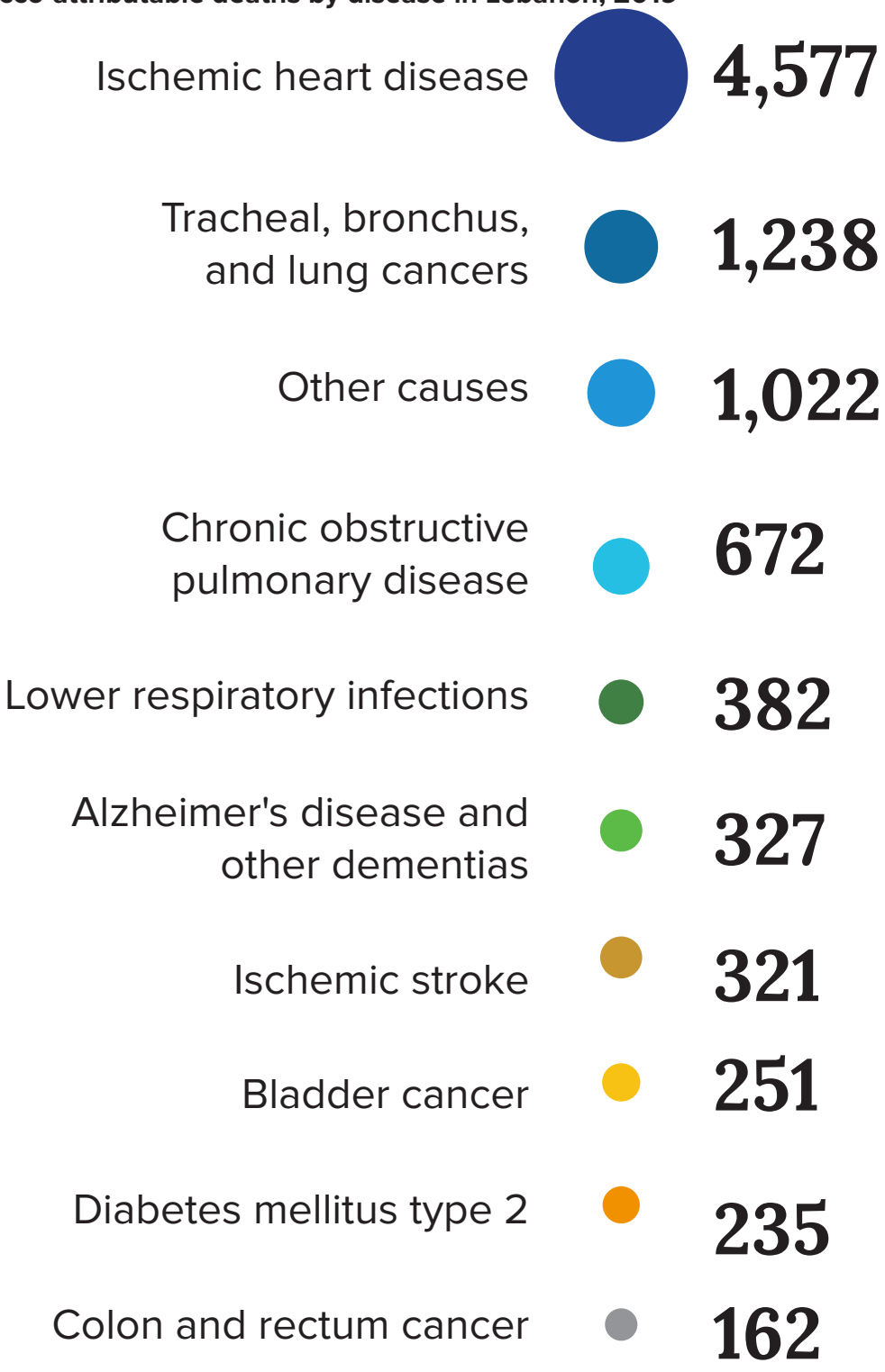
Figure 4 illustrates the share of the burden attributable to tobacco-attributable mortality, workplace costs, and health-care costs. **Figure 5** and **Figure 6** illustrate the annual health losses that occur due to tobacco use.

Fig. 4. Breakdown of the share of the cost of tobacco-attributable mortality, workplace costs, and health-care costs in Lebanon (LBP), 2020



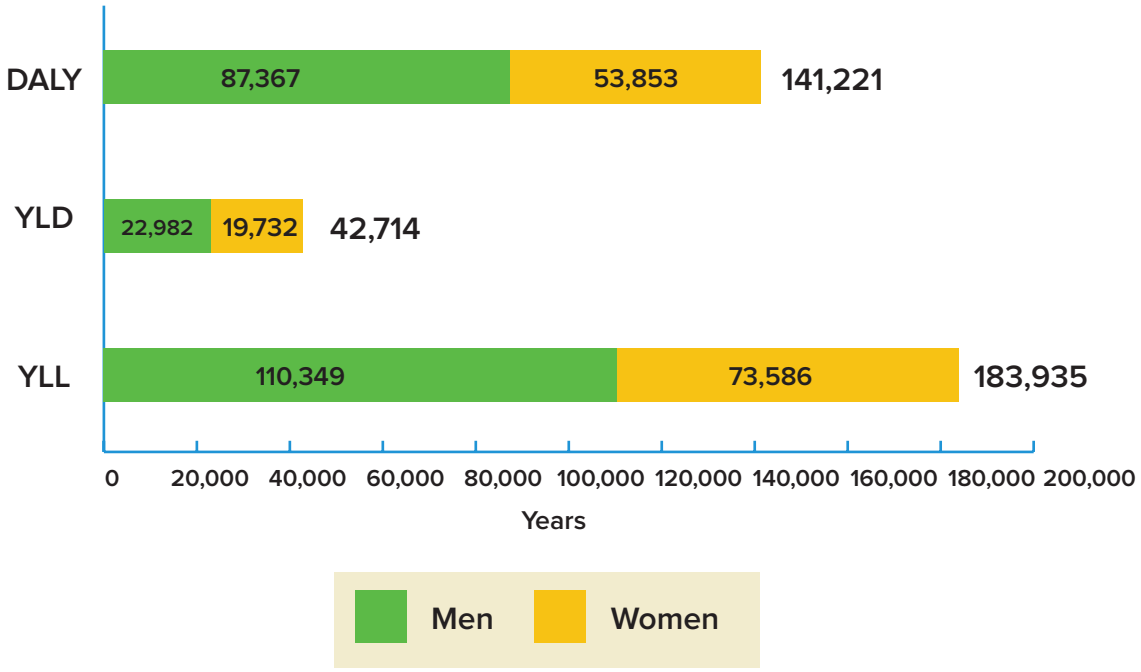
*Figures subject to rounding.

Fig. 5: Tobacco-attributable deaths by disease in Lebanon, 2019



Source: Results are from the IHME Global Burden of Disease Results Tool. Other causes include larynx cancer, pancreatic cancer, breast cancer, leukaemia, stomach cancer, intracerebral haemorrhage, asthma, prostate cancer, liver cancer, aortic aneurysm, oesophageal cancer, lip and oral cavity cancer, kidney cancer, peptic ulcer disease, cervical cancer, atrial fibrillation and flutter, tuberculosis, other pharynx cancer, subarachnoid haemorrhage, nasopharynx cancer, peripheral artery disease, gallbladder and biliary diseases, multiple sclerosis, and rheumatoid arthritis.

Fig. 6: Tobacco-attributable DALYs, YLDs, and YLLs in Lebanon, by gender, 2019*



*A Disability-adjusted life year (DALY) is a universal metric that allows comparison between different populations and health conditions across time. DALYs equal the sum of years of life lost (YLLs) and years lived with disability (YLDs). One DALY equals one lost year of healthy life. Years of life lost (YLL) are years lost due to premature mortality. Years lived with disability (YLD) can also be described as years lived in less-than-ideal health. A YLD is calculated by taking the prevalence of the condition multiplied by the disability weight for that condition [62].

4.2 Implementing policy measures that reduce the burden of tobacco use

The WHO FCTC provides a framework for tobacco control measures to be implemented by Parties at national and international levels to reduce continually and substantially the prevalence of tobacco use and exposure to tobacco smoke. Through the full implementation of the tobacco control measures in the WHO FCTC, Lebanon can secure significant health and economic returns, and begin to reduce the LBP 5.3 trillion (US$140 million) in annual economic losses from tobacco use.

The next two subsections present the health and economic benefits that result from six key WHO FCTC policy actions: 1) to increase tobacco taxation to reduce the affordability of tobacco products; 2) to create smoke-free public places and workplaces to protect people from the harms of tobacco smoke; 3) to expand graphic warning labels; 4) to implement plain packaging of tobacco products; 5) to promote and strengthen public awareness of tobacco control issues; and 6) to promote cessation of tobacco use and treatment for tobacco dependence and encourage cessation by training health professionals to provide brief advice to quit tobacco use.

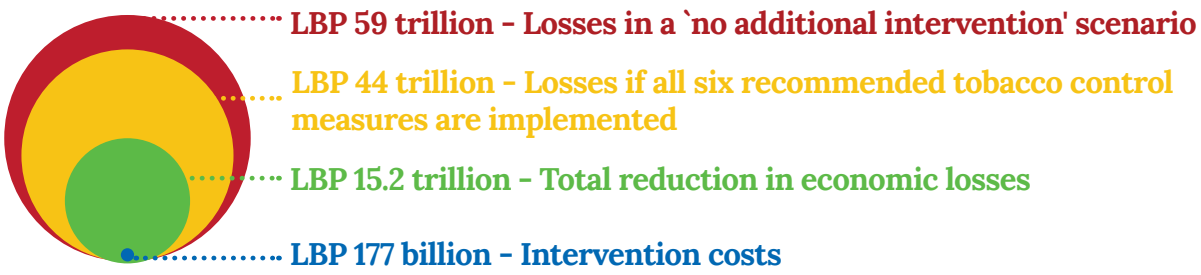
4.2.1 Health benefits – lives saved

The full implementation of the WHO FCTC in Lebanon (inclusive of all six of the measures listed above) would lower the prevalence of tobacco use, leading to substantial health gains for the country. Implementing the package of the six key WHO FCTC policy actions that are the focus of this investment case would reduce the prevalence of cigarette smoking by 52 percent (in relative terms) over 15 years, saving 39,526 lives over 2023-2037, or about 2,635 lives annually.

4.2.2 Economic benefits – costs averted

Implementing the package of six key WHO FCTC policy actions would result in Lebanon avoiding 26 percent of the economic loss that it is expected to occur from tobacco use over the next 15 years. **Figure 7** illustrates the extent to which Lebanon can mitigate the economic losses it would incur under the status quo.

Fig. 7: Tobacco-related economic losses over 15 years, 2023-2037

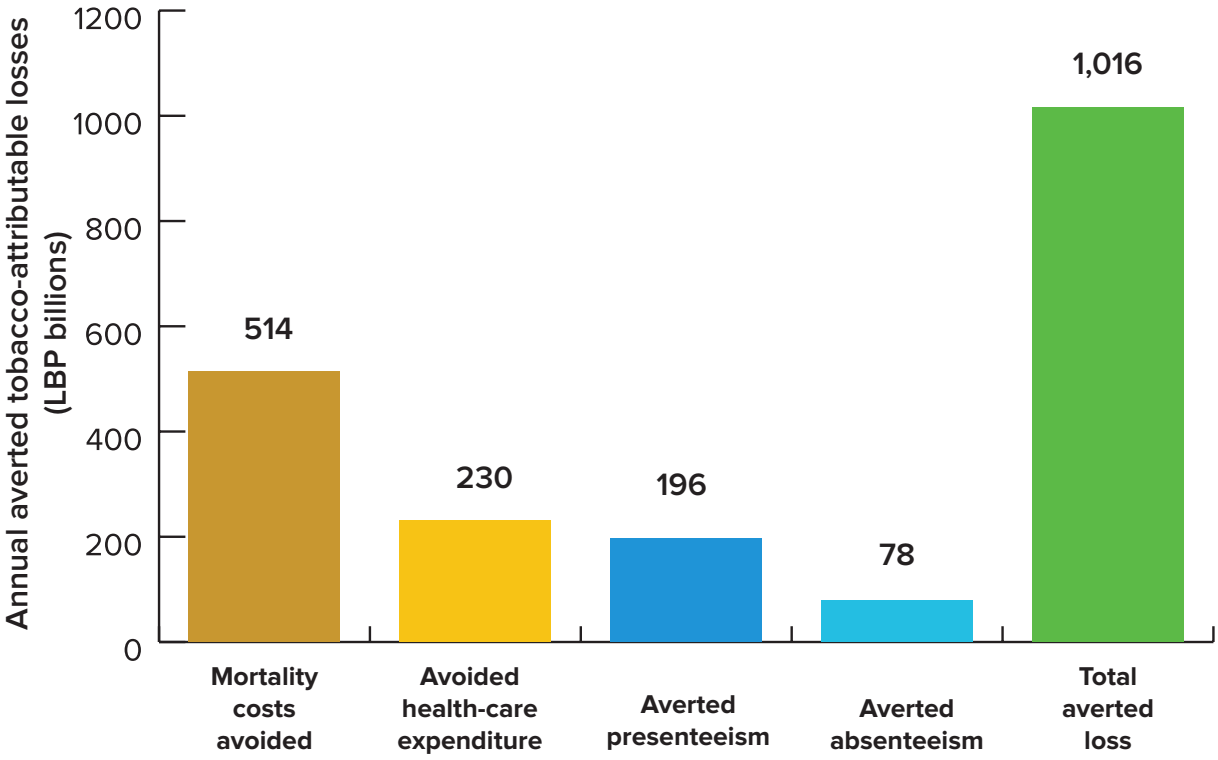


In total, over 15 years Lebanon would save about LBP 15.2 trillion that would otherwise be lost if the package of six key WHO FCTC policy actions are not implemented. This is equivalent to around LBP 1 trillion in annual avoided losses.

With better health that would arise from the implementation of the WHO FCTC, fewer individuals would need health-care services due to tobacco-related diseases, resulting in direct cost savings to the government and citizens. Better health also leads to increased productivity. Fewer working-age individuals leave the workforce prematurely due to death. Workers miss fewer days of work (absenteeism) and are less hindered by health complications while at work (presenteeism).

Figure 8 breaks down the sources from which annual avoided costs accrue from the implementation of the package of six WHO FCTC policy actions. The largest annual avoided costs result from averted tobacco-attributable mortality (LBP 514 billion). The next highest source is avoided health-care expenditures (LBP 230 billion), averted presenteeism (LBP 196 billion), and reduced absenteeism (LBP 78 billion).

Fig. 8: Sources of annual avoided economic costs as a result of implementing the tobacco control policy package in Lebanon*



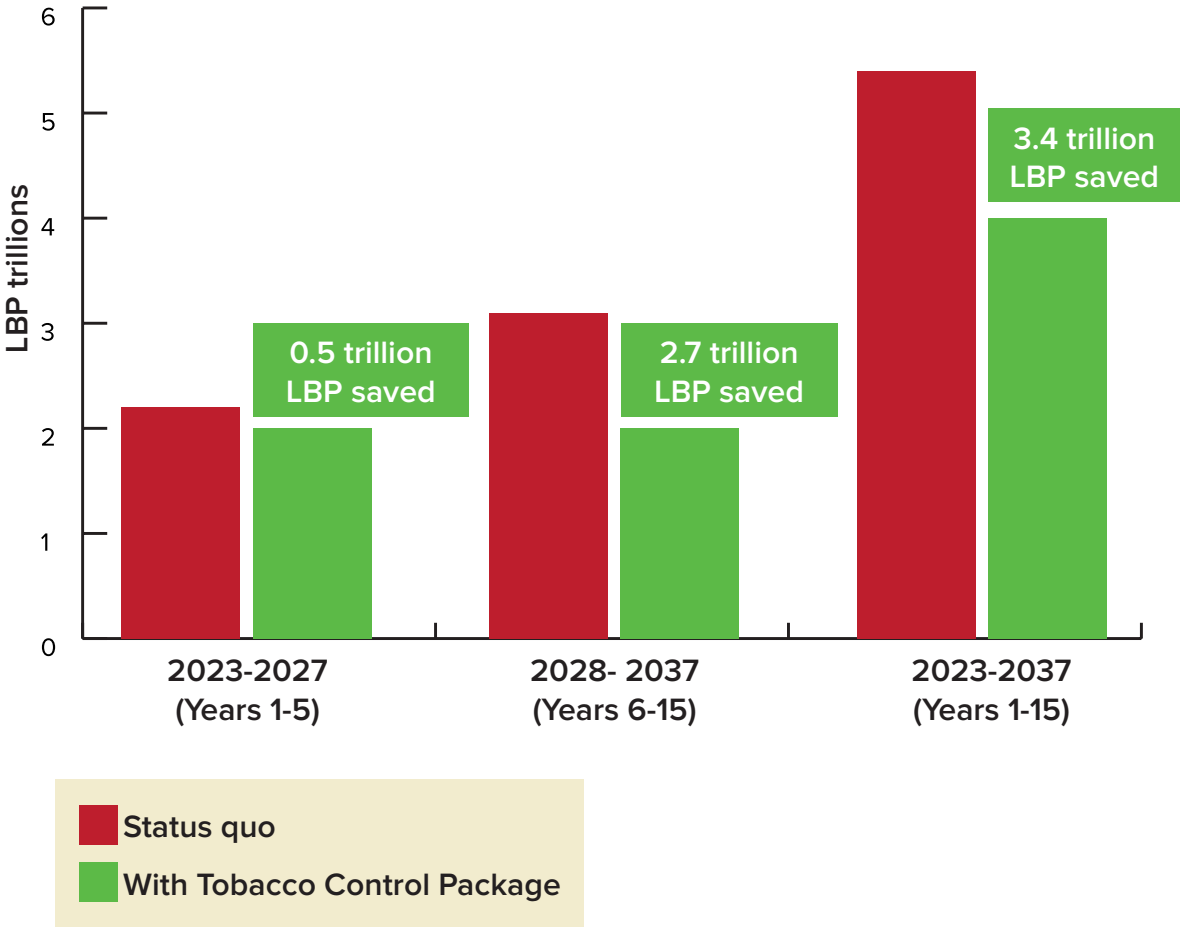
*Figures subject to rounding.

Implementing the package of six WHO FCTC policy actions examined in the investment case will reduce medical expenditure both for citizens and the government. Presently, total annual private and public annual health-care expenditures in Lebanon is about LBP 17.7 trillion annually [63], and 6.9 percent of this amount is directly related to treating disease and illness due to tobacco use [6] (≒ LBP 1.2 trillion).

Year-on-year, the package of interventions would lower tobacco use prevalence, leading to less illness, and consequently less health-care expenditure (see **Figure 9**). Over the 15-year time horizon of the analysis, the package of interventions averts LBP 3.4 trillion in health-care expenditures, or LBP 203 billion annually. Of these savings, 47 percent would go to the government and 34 percent would go to individual citizens who would have had to make OOP payments for health care. The remainder of savings would go to private insurance

and other sources of health-care expenditures. From reduced health-care costs alone, the government would expect to save about LBP 1.6 trillion over 15 years. Simultaneously, the government would successfully reduce the health expenditure burden that tobacco imposes on the Lebanese population through OOP payments, supporting efforts to reduce economic hardship on families. For families with tobacco users who quit, spending that would have been on tobacco products or health care could instead be invested in nutrition, education, and other productive inputs to secure a better future.

Fig. 9: Private and public health-care costs (and savings) in Lebanon over the 15-year time horizon, 2023-2037*



*Figures subject to rounding.

4.2.3 The return on investment

While the health gains from strengthening tobacco control in Lebanon are by themselves enough to justify the cost of the interventions, the economic gains that will also accrue make the case for WHO FCTC implementation 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 efficiency of the tobacco investments by dividing the economic benefits that are gained from implementing the WHO FCTC tobacco control investments by the costs of the investments.

For this investment case, the ROI for each intervention was evaluated in the short-term (five years), to align with planning and political cycles, and in the medium-term (15 years) to align with the original timeframe allotted for the SDGs. The ROI was also evaluated for the full package of six key WHO FCTC policy actions. Total benefits (avoided economic losses due to tobacco-attributable mortality, health-care expenditures, and diminished workplace productivity) are a measure of which interventions are expected to have the largest impact.

Table 2 displays costs, benefits, and ROIs by intervention, as well as for all interventions combined. With the exception of training health professionals to provide brief advice to quit tobacco use (an individual-level intervention with higher initial personnel costs), interventions deliver an ROI greater than one within the first five years, meaning that even in the short-term the benefits of implementing the interventions outweigh the costs. Depending on the intervention, over the first five years, the government will gain economic benefits ranging from between 0.4 to 186 times its investment. Given the long-term nature of many tobacco-related illnesses, with disease often only developing after years of tobacco use, the ROIs for each intervention would continue to grow over time, reflecting the compounding gains from planning and development stages to full implementation.

Table 2: Return on investment, by tobacco control policy/intervention (LBP billions)

Return on investment, by tobacco control measure	First 5 years (2023-2027)			All 15 years (2023-2037)		
	Total costs (billions)	Total benefits (billions)	ROI	Total costs (billions)	Total benefits (billions)	ROI
Tobacco control package* *(all policies/interventions implemented simultaneously)*	**70**	**2,511**	**35**	**177**	**15,243**	**86**
Increase tobacco taxation (cigarette taxation modeled)[11] (WHO FCTC Article 6)	6.5	1,209	186	14.1	8,783	629
Create smoke-free public places and workplaces (WHO FCTC Article 8)	11.6	153	13	22.5	1,079	48
Implement plain packaging (WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13)	5.8	650	112	11.9	4,479	378
Promote and strengthen public awareness of tobacco control issues (WHO FCTC Article 12)	15.5	608	39	37	4,193	113
Promote tobacco cessation and treatment for dependence by training health professionals to provide brief advice to quit (WHO FCTC Article 14)	18.2	6.5	0.37	63	109	2

* The combined impact of all interventions is not the sum of individual interventions. To assess the combined impact of interventions, following Levy and colleagues' (2018), "effect sizes [are applied] as constant relative reductions; that is, for policy i and j with effect sizes PRi and PRj, (1-PR ii) x (1-PR j) [is] applied to the current smoking prevalence [64]. The costs of the tobacco package include the costs of the examined policies, as well as programmatic costs to implement and oversee a comprehensive tobacco-control program.

11 Raise taxes to what is considered in the WHO Report on the Global Tobacco Epidemic, 2021 as a high- level of achievement, which is for total taxes to represent at least 75 percent of the retail price. In the scenario modeled, cigarette taxes would meet the 75 percent threshold in 2037, at the end of the analysis.

Over the 15-year period, increasing tobacco taxes on cigarettes is expected to have the highest return on investment (629:1).[12] The return will be even higher with increasing tax on all tobacco products. Implementing graphic warning labels are expected to have the next highest return on investment (378:1), followed by implementing plain packaging (130:1), promoting and strengthening public awareness of tobacco control issues (113:1), creating smoke-free public places and workplaces to protect people from the harms of tobacco smoke (48:1), and finally to promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (0.37:1).

5. Examining additional impacts: government revenue, equity, and the SDGs

The investment case reviews the impacts of increasing taxes on low-income Lebanese by summarizing an equity analysis conducted by Salti, Brouwer, and Verguet (2016) [65]. In addition, it examines what contribution stronger WHO FCTC implementation would make towards Lebanon's fulfilment of SDG Target 3.4.

5.1 Equity analysis: benefits for lower-income populations of increasing cigarette taxes

A common misconception is that taxes on tobacco products may disproportionately harm poor tobacco users, since the tax burden represents a higher proportion of their income than that of wealthier tobacco users. However, evidence shows that the poor actually stand to benefit most from raised cigarette taxes [66]. Relative to richer smokers, poorer smokers are more likely to quit or not begin smoking when taxes are increased [27], meaning they benefit from subsequent decreases in tobacco-related health problems, and resulting medical costs which can be financially catastrophic. In Lebanon, an analysis conducted by Salti, Brouwer, and Verguet (2016) analysed the impact of a 50 percent increase in the price of cigarettes on the number of deaths, tax revenue, and OOP health-care spending [65]. A 50 percent increase in price is equivalent to the first six years of tax increases modeled in the investment case and thus similar results would be expected during that time period.

The equity analysis conducted by Salti, Brouwer, and Verguet (2016) [65] divides Lebanon's population into five equal groups by income, where quintile 1 is composed of the poorest 20 percent of people, and quintile 5 is composed of the wealthiest 20 percent. It finds that the poorest and second poorest quintile have the highest smoking prevalence at 28 percent, meaning they experience the largest share of health and economic impacts resulting from tobacco use. Additionally, the analysis finds that lower income Lebanese are more responsive to changes in price, meaning that the health and economic benefits resulting from increased prices accrue disproportionately to lower-income Lebanese.

Table 3 shows the results of the analysis by Salti, Brouwer, and Verguet (2016) [65]. Over the course of the lifetime of the model cohort, a 50 percent increase in price would prevent 17,000 deaths among the poorest income quintile compared to 9,000 among the wealthiest quintile. That means that 27 percent of the total averted deaths are among the poorest

20 percent of the population. When prices increase, tax revenue to the government also increases. Because fewer wealthy Lebanese quit smoking in response to the price increase, the wealthiest quintile is the source of 26 percent of the additional tax revenue, compared to just 12 percent among the poorest quintile.

Individuals who quit smoking in response to an increase in price are less likely to need to seek care for tobacco-attributable diseases. The increase in price modeled by Salti, Brouwer, and Verguet (2016) was found to result in significant savings in health-care expenditures and OOP health-care costs, with 36 percent of these savings accruing to the poorest 20 percent of the population. OOP health-care expenditures can push households into poverty. By reducing the number of people smoking, the price increase is expected to prevent 26,800 instances of poverty. Because people who quit smoking are no longer using a fraction of their income to purchase cigarettes, the price increase also enables 2 percent of the poorest income quintile and 1.2 percent of the second quintile to move out of poverty [65].

Table 3: Health and economic impacts of tax increase, by income quintile

	Poorest quintile	Second poorest quintile	Middle quintile	Second wealthiest quintile	Wealthiest quintile
Deaths averted over the lifetime	17,000	14,400	13,300	11,000	9,000
Percentage of additional tax revenue borne by quintile	12.0%	18.6%	20%	23%	26%
Percentage of savings in tobacco-attributable disease treatment accruing to quintile	36%	23%	18%	14%	9%
Poverty cases averted	17,000	9,800	0	0	0
Fraction of quintile moving out of poverty	2.0%	1.2%	-	-	-

*Table adapted from Salti, Brouwer, and Verguet (2016) [65]

5.2 The Sustainable Development Goals and the WHO FCTC

Implementing the package of six key WHO FCTC policy actions will support Lebanon in fulfilling SDG Target 3.a to strengthen implementation of the WHO FCTC. Moreover, acting now will contribute to Lebanon's efforts to meet SDG Target 3.4 to reduce by one third premature mortality from NCDs by 2030: the measures would contribute the equivalent of around 28 percent of the needed reduction in mortality for Lebanon to achieve SDG Target 3.4

The WHO FCTC is an accelerator for sustainable development, and its implementation will benefit the achievement of many SDGs, including those outside of the health and well-being domain [20]. For example, stronger tobacco control will contribute to the to the reduction of poverty and inequalities (SDGs 1 and 10, respectively) and economic growth (SDG 8).

SDG Target 3.4

By 2030 the WHO FCTC measures would contribute the equivalent of around 3 percent of the needed reduction in mortality for Lebanon to achieve SDG Target 3.4.

Photo: UNDP

6. Conclusion and recommendations

Each year, tobacco use costs Lebanon LBP 5.3 trillion (US$140 million) 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 tobacco in Lebanon. Enacting the six key WHO FCTC policy actions would save 2,635 lives each year and reduce the incidence of disease, leading to savings from averted medical costs and averting productivity losses.

In economic terms, these benefits are substantial, adding up to LBP 15.2 trillion (US$402 million) over the next 15 years. Further, the economic benefits of strengthening tobacco control in Lebanon greatly outweigh costs of implementation (LBP 15.2 trillion in benefits versus just LBP 177 billion in costs).

By investing now in the package of six WHO FCTC policy actions modeled in this investment case, Lebanon would not only reduce tobacco consumption, improve health, reduce government health expenditures, and grow the economy, it would also reduce hardships faced by many Lebanese. Lebanon can also reinvest savings from government health-care expenditures and revenue from increased tobacco taxes into national development priorities such as universal health coverage and other social protections, as well as COVID-19 response and recovery efforts. Leveraging increased revenue from tobacco taxes is also an important strategy to finance COVID-19 response and recovery efforts.

Based on the findings of this investment case, these key actions for Lebanon are recommended to be pursued simultaneously:

Recommendations

1. **Commit to fully implement the WHO FCTC in Lebanon.**

2. **Strengthen tobacco tax structures and increase tax rates (*WHO FCTC Article* 6).**

3. **Take action to strengthen, implement and enforce the other five key WHO FCTC policy actions modeled in this investment case.**

4. **Strengthen multisectoral coordination for tobacco control in Lebanon by establishing a national coordination mechanism and encourage the participation of civil society in WHO FCTC implementation (*WHO FCTC Articles* 5.2(*a*) *and* 4.7).**

5. **Develop a national tobacco control strategy for Lebanon (*WHO FCTC Article* 5.1).**

6. **Implement measures to protect public health policies from the commercial and other vested interests of the tobacco industry (*WHO FCTC Article* 5.3).**

7. **Join the Protocol to Eliminate Illicit Trade in Tobacco Products, including by building capacity to combat illicit trade (*Protocol and* WHO FCTC *Article* 15).**

8. **Identify opportunities to link the implementation of the WHO FCTC with wider sustainable development strategies in Lebanon.**

1 Commit to fully implement the WHO FCTC in Lebanon

As a Party to the WHO FCTC, Lebanon has undertaken to fully implement the Convention. The WHO FCTC is an evidence-based treaty that sets out a clear blueprint for action to protect present and future generations from the devastating health, social, environmental, and economic consequences of tobacco consumption and exposure to tobacco smoke. Lebanon is encouraged to commit to fully implementing the treaty, with a focus on the recommendations made for Parties in the *Global Strategy to Accelerate Tobacco Control: Advancing Sustainable Development through the Implementation of the WHO FCTC 2019–2025*, in relevant WHO FCTC implementation guidelines, in WHO FCTC Needs Assessment reports and in this investment case.

2 Given the effectiveness of tobacco taxation, strengthen tax structures for all tobacco products (including novel products) and increase tax rates (WHO FCTC Article 6)

Lebanon is encouraged to reform its tobacco taxation structure to introduce a specific excise tax on tobacco products and to substantially raise the tax share of the retail price of tobacco in accordance with recommendations made in the WHO FCTC Implementation guidelines for Article 6 [67] and by WHO in the *WHO Technical Manual on Tobacco Tax Policy and Administration* [46]. It is also encouraged to substantially raise the total tax share of the retail price of tobacco to meet or exceed 75 percent of the retail price (considered in the *WHO Report on the Global Tobacco Epidemic, 2021* as a high-level of achievement) [42].

The introduction of a specific tobacco excise tax is recommended because it is more difficult for the tobacco industry to manipulate and easier for authorities to implement [46], [68]. Tobacco taxes should aim to reduce affordability, including by increasing at a rate that outpaces inflation and income growth [68].

It is also recommended to ensure robust tobacco taxation policies are in place for all types of tobacco (including for shisha, smokeless tobacco and novel tobacco products), and that consideration is given to removing duty-free allowances for tobacco.

There is clear evidence that raising cigarette prices through increased taxes is a highly effective measure for reducing smoking among youth, young adults, and people from lower socioeconomic communities. Increasing the price of tobacco will have benefit for these vulnerable populations.

3 Take action to strengthen, implement and enforce the other four key WHO FCTC policy actions modeled in this investment case by:

- creating smoke-free public places and workplaces to protect people from the harms of tobacco smoke by removing the allowance of hotels to allow 20 percent of room capacity for smoking (WHO FCTC Article 8).
- passing legislation requiring pictorial health warnings and requiring graphic health warnings that describe the harms of tobacco use and cover at least 50 percent of product packaging on all tobacco products available in Lebanon (WHO FCTC Article 11).
- considering implementation of plain packaging for tobacco products to reduce the appeal of tobacco packaging and make health warnings more prominent (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13).
- promoting and strengthening public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation. Lebanon should consider implementation of a nationwide mass media campaign (WHO FCTC Article 12).
- promoting cessation of tobacco use and treatment of tobacco dependence by training health professionals to provide brief advice to quit tobacco use. Further gains would be possible with the provision of additional support to tobacco users, such as expanding access of cost-covered tobacco use cessation services, establishing a toll-free quit line and making NRT more widely available (free of cost if possible) (WHO FCTC Article 14).

4 Strengthen multisectoral coordination for tobacco control in Lebanon by establishing a national coordination mechanism and encourage the participation of civil society in WHO FCTC implementation (WHO FCTC Articles 5.2(a) and 4.7)

The Government of Lebanon should establish and sustainably finance a national coordination mechanism (NCM) to coordinate different government sectors, civil society and other stakeholders to advance WHO FCTC implementation in line with national priorities and drive enforcement of Law No. 174. Action to establish an NCM can be guided by the joint Convention Secretariat–UNDP publication, *National Coordinating Mechanism for Tobacco Control: Toolkit for Parties to Implement Article 5.2(a) of the WHO FCTC* [69]. The findings and recommendations of this Investment Case for Tobacco Control in Lebanon can be a powerful catalyst to bring together different stakeholders for the overall benefit of the country and can serve as a foundation for prioritized action.

5 Develop a national tobacco control strategy for Lebanon (WHO FCTC Article 5.1)

It is recommended that Lebanon should develop, publish and routinely update a national multisectoral tobacco control strategy. This will, among other things, serve to guide the work of activities of the NCM once established, as well as set out plans for strengthening tobacco control policies and legislation.

The national tobacco control strategy for Lebanon should include actions that would:

- Outline a comprehensive workplan and timeline for the full implementation of the WHO FCTC.
- Strengthen capacity for compliance-building and enforcement of tobacco control legislation such as Law No. 174.
- Establish an NCM for tobacco control.
- Include joining the Protocol to Eliminate Illicit Trade in Tobacco Products.
- Encourage and support current tobacco users to quit.
- Prevent children and young people from taking up tobacco use.
- Protect public health policies from commercial and other vested interests of the tobacco industry.

- Ensure gender-sensitive approaches to policy, programmes, and services.
- Prioritize vulnerable groups including, but not limited to, women and girls, those with low-income, those with low levels of education and youth.
- Make delivery of tobacco control policies free and accessible to all.

The stakeholder engagement plan is important to establish a clear way forward on how the various sectors and key stakeholders will be involved in the dissemination of the strategy along with key anti-tobacco messaging. The plan should be developed in collaboration with relevant sectors of government and civil society.

6 Implement measures to protect public health policies from the commercial and other vested interests of the tobacco industry (WHO FCTC Article 5.3)

It is recommended that Lebanon take action to protect the country's public health policies from the commercial and other vested interests of the tobacco industry. A resolution made by the World Health Assembly in 2001, citing the findings of the Committee of Experts on Tobacco Industry Documents, states that "the tobacco industry has operated for years with the express intention of subverting the role of governments and of WHO in implementing public health policies to combat the tobacco epidemic" [70].

The Preamble of the WHO FCTC recognizes that Parties "need to be alert to any efforts by the tobacco industry to undermine or subvert tobacco control efforts and the need to be informed of activities of the tobacco industry that have a negative impact on tobacco control efforts". The WHO FCTC includes a specific obligation that "in setting and implementing their public health policies with respect to tobacco control, Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry in accordance with national law". The *2021 Global Progress Report on Implementation of the WHO Framework Convention on Tobacco Control* reported that the most frequently mentioned barrier to the implementation of the Convention by Parties is the interference by the tobacco industry, including the industries producing novel and emerging tobacco products and nicotine products [71].

Lebanon is encouraged to review current policies and legislation in light of the Implementation Guidelines for WHO FCTC Article 5.3 [72], and then address outstanding gaps by implementing the recommendations made in those guidelines. Attention should also be given to ensuring policy coherence across government policymaking to prioritise public health and WHO FCTC

In particular, it is recommended that Lebanon strengthens existing tobacco control legislation by removing any opportunities for tobacco industry engagement in policymaking. It is also recommended for Lebanon to enforce the Anti-Corruption Law and ensure government and public officials adhere to this law when interacting with the tobacco industry. It also recommended that the Government of Lebanon issue a code of conduct prescribing standards in accordance with WHO FCTC Article 5.3 for all government and public officials. Government and public officials should be required to disclose conflicts of interest including any involvement with the tobacco industry or any entities acting on behalf of the tobacco industry. Details of any meeting with the government and the tobacco industry should be made transparent and available to the public.

7 Join the Protocol to Eliminate Illicit Trade in Tobacco Products, including by building capacity to combat illicit trade (Protocol and WHO FCTC Article 15)

Lebanon has yet to join the Protocol to Eliminate Illicit Trade in Tobacco Products, a crucial step to take to combat illicit trade [58]. Lebanon would benefit from ratifying and implementing the Protocol to combat illicit trade within the country. Key provisions that Lebanon would benefit from include:

- Establishing a track and trace system for tobacco products.
- Monitoring tobacco trade to provide data on the amount of illicit tobacco in the market.
- Controlling the supply chain through licensing and record keeping requirements.
- Implementing due diligence and training requirements of customs officials and others whose work involves tobacco trade.

8 Identify opportunities to link the implementation of the WHO FCTC with wider sustainable development strategies in Lebanon

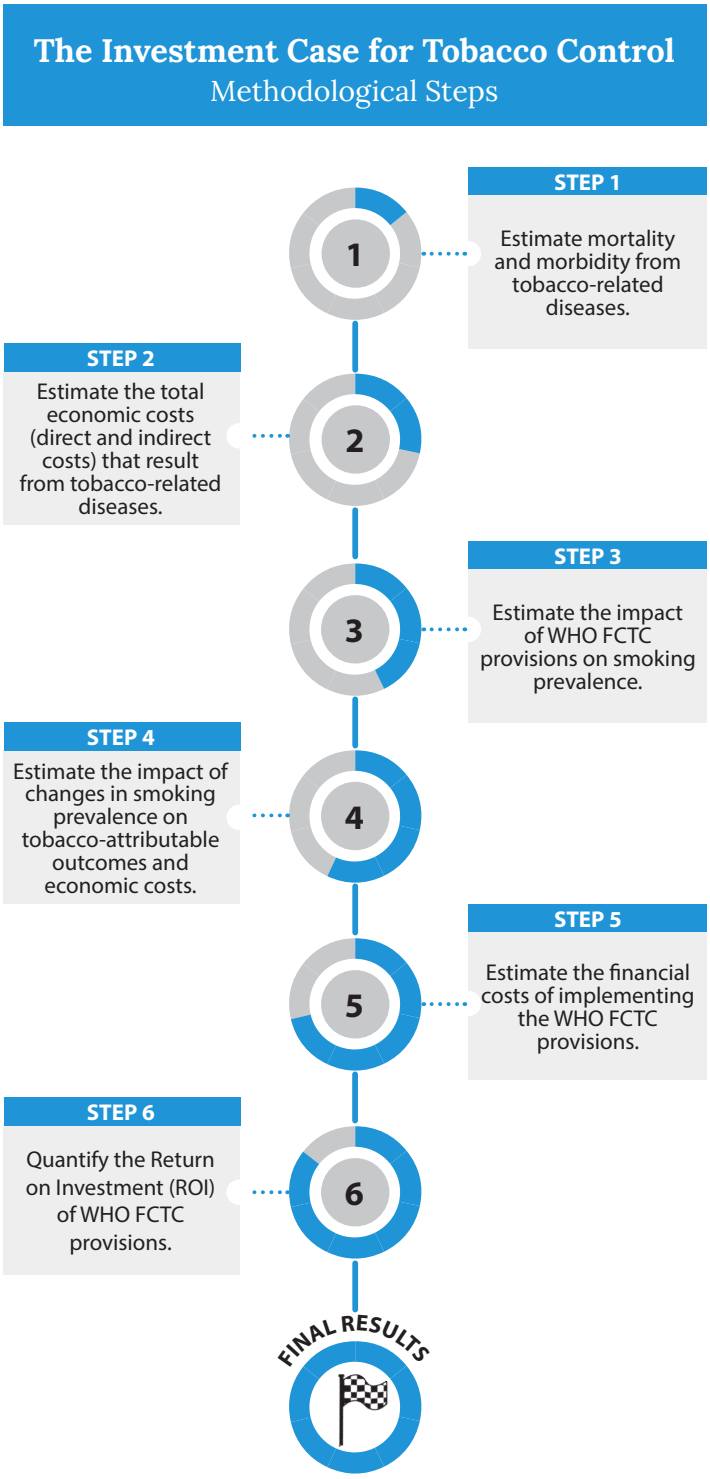
With the vast health, economic, social and environment costs of tobacco, the case is clear: implementing the WHO FCTC is a powerful means for Lebanon to improve the lives of citizens, achieve the SDGs, and better the conditions and future of the country. All sectors have a role to play in tackling tobacco use, and the benefits of full WHO FCTC implementation will enrich all aspects of life in Lebanon. The Government of Lebanon should prioritize the implementation of the WHO FCTC in its sustainable development strategies and other related strategies and plans.

Annex: Methodology

A1.1 Overview

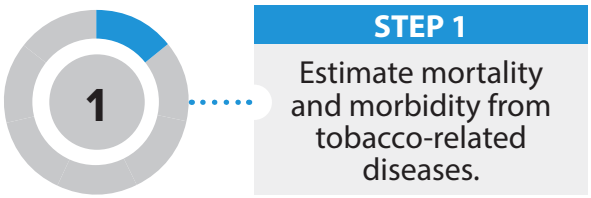
The economic analysis consists of two components: 1) assessing the current burden of tobacco use and 2) examining the extent to which WHO FCTC provisions can reduce the burden. The first two methodological steps depicted in **Figure A1** are employed to assess the current burden of tobacco use, while methodological steps 3-6 assess the impact, costs, and benefits of implementing or intensifying WHO FCTC provisions to reduce the demand for tobacco. The tools and methods used to perform these methodological steps are described in detail below.

Fig. A1: Steps in the investment case

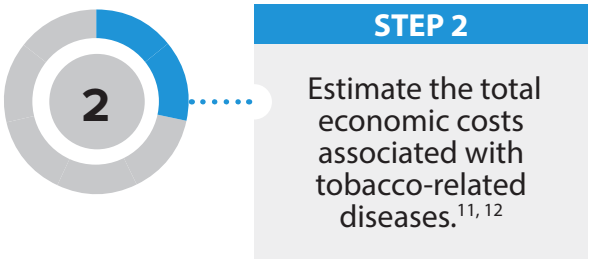


A1.2 Component one: current burden

The current burden model component provides a snapshot of the health and economic burden of tobacco use in Lebanon in the most recent year for which data are available.



The investment case model is populated with country-specific data on tobacco-attributable mortality and morbidity from the 2019 Global Burden of Disease Study (GBD) [5], [73]. The study estimates the extent to which smoking and secondhand tobacco smoke exposure contribute to the incidence of 37 diseases, healthy life years lost, and deaths, across 195 countries.



Next, the model estimates the total economic costs of disease and death caused by tobacco use. The total economic costs include tobacco-attributable health-care expenditures, the value of tobacco-attributable mortality, and workplace productivity losses: absenteeism and presenteeism.

Health-care expenditures – Health-care expenditures include smoking-attributable public (government-paid), private (insurance, individual out-of-pocket), and other health-care expenditures. The proportion of health-care costs attributable to smoking was obtained using the formula for estimating smoking attributable fraction (SAF) of health-care expenditures from Goodchild et al. (2018) [6]. The SAF for Lebanon is estimated at 6.9 percent. To calculate the share of smoking-attributable health-care expenditures borne by public, non-profit, and

13 In assessing the current burden of tobacco use, the economic costs of mortality include the cost of deaths due to any form of exposure to tobacco (including smoking, secondhand smoke exposure, and the use of other types of tobacco products). Only smoking-attributable (not tobacco-attributable) costs are calculated for healthcare expenditures, absenteeism and presenteeism. While other forms of tobacco may also cause losses in these categories, no data are available to precisely ascertain those losses.

14 All diseases are assumed to decrease in proportion to smoking prevalence when the decrease in prevalence occurs. While the model overestimates how quickly health benefits will accrue for some diseases, for example cancers—recent evidence suggests notable declines in the risk of lung cancer incidence begin two to five years after smoking prevalence decreases [74]. On the other hand, the risk of incidence of other diseases, for example cardiovascular disease (CVD), declines significantly in the years immediately following quitting [75]..

private entities, it was assumed that each entity incurred smoking-attributable health-care costs in equal proportion to the entity's contribution to total health expenditure. Health-care expenditures were obtained from the WHO Global Health-care Expenditure Database (GHED) [63]. The latest year for which data are available in WHO GHED is 2019. To obtain 2020 values, we took the average annual increase in health-care expenditures in Lebanon over the past 10 years and applied that increase to the 2019 health-care expenditure values.

Workplace costs and the cost of tobacco-attributable mortality – Workplace costs and the cost of tobacco-attributable mortality represent the monetized value of lost time, productive capacity, or quality of life as a result of tobacco-attributable diseases. The cost of tobacco-attributable mortality accrues when tobacco use causes mortality, eliminating the unique economic and social contributions that an individual would have provided in their remaining years of life. Workplace costs accrue when tobacco use results in productivity losses. Compared to non-tobacco users, individuals who use tobacco are more likely to miss days of work (absenteeism) and to be less productive at work due tobacco-related illnesses (presenteeism).

- *The economic cost of tobacco-attributable mortality*. Tobacco-attributable mortality was monetized using a "value of a statistical life year" (VSLY) measure. VSL is a measure of individuals' willingness to pay for small changes in the risk of death and it is commonly used in economic evaluations of health programmes and policies to monetize health outcomes [76]. Few studies have assessed VSL in low- and middle-income countries [77]. We extrapolated a country-specific estimate of VSL following guidance from the Reference Case Guidelines for Benefit-cost analysis in Global Health and Development [76], estimating the value of one additional year of life for Lebanon at LBP 36 million. Using GBD data on the age at which tobacco-attributable deaths occur, the model calculates the total number of years of life lost due to tobacco, across the population. Each future year of life is multiplied by VSLY to calculate the cost of lost human life.

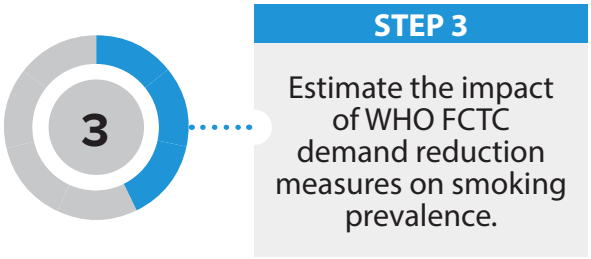
- *Productivity costs.* Productivity costs consist of costs due to absenteeism and presenteeism, and are counted only among employed cigarette smokers. The model uses estimates from academic literature on the number of extra working days missed due to active smoking (2.9 days per year) [78]. Presenteeism losses are obtained similarly, under research that shows that smokers in China, the United States, and five European countries experience about 22 percent more impairment at work because of health problems compared to never-smokers—losses equivalent to about 7.5 days of work [79]. The number of employed smokers is multiplied by days of work missed due to absenteeism or presenteeism by the average daily country wage to obtain estimates of losses.

A1.3 Component two: policy/intervention scenarios

This component estimates the effects of WHO FCTC tobacco control measures on mortality and morbidity, as well as on total economic costs (direct and indirect) associated with tobacco use.

A static model using a population-attributable fraction (PAF) approach was used to estimate the total impact of the tobacco control measures. In the model, aside from smoking prevalence, variables do not change throughout the 15-year time horizon. The model follows a population that does not vary in size or makeup (age/gender) over time in two scenarios: a status quo scenario in which smoking prevalence remains at present day rates, and an intervention scenario in which smoking prevalence is reduced according to the impact of tobacco control measures that are implemented or intensified. Published studies have used similarly static models to estimate the impact of tobacco control measures on mortality and other outcomes [80], [81].

Within the investment case, mortality and morbidity, as well as economic costs that are computed in the intervention scenario are compared to the status quo scenario to calculate the extent to which tobacco control measures can reduce health and economic costs.



Selection of key WHO FCTC measures modeled within the investment case align with the *Global Strategy to Accelerate Tobacco Control* [82] developed following a decision at the Seventh session of the Conference of the Parties (COP7) to the WHO FCTC. Under Objective 1.1 of the Strategy, priority is given to enabling action to accelerate WHO FCTC implementation, including effective forms of technical and financial assistance to support Parties in the identified priority action areas. This includes Parties giving priority to, among other things, the implementation of price and tax measures (WHO FCTC Article 6) and time-bound measures of the Convention. The time-bound measures include creating smoke-free public places and workplaces (WHO FCTC Article 8), prominent health warnings and plain tobacco packaging (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Article 13), and comprehensive bans on tobacco advertising, promotion, and sponsorship (TAPS) (WHO FCTC Article 13).

In addition, given the importance of awareness in behaviour change and shaping cultural norms, the investment cases include promoting and strengthening public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation (WHO FCTC Article 12). Effect sizes for the WHO FCTC demand reduction measures are obtained from the literature. The impact of enforcing smoke-free air laws, implementing plain packaging, intensifying advertising bans, and promoting and strengthening public awareness of tobacco control issues are derived from Levy et al. (2018) [64] and Chipty (2016) [83], as adapted within the Tobacco Use Brief of Appendix 3 of the WHO *Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013-2020* [84], and adjusted based on assessments of Lebanon's baseline rates of implementation. The impact of brief advice to quit offered to tobacco users by health-care professionals in primary care settings is from Levy et al. 2010 [85].

Except for taxes—the impact of which is dependent on the timing of increases in tax rates (see below)— and the brief advice intervention—the impact of which is guided by rates of training for primary health-care providers (see also below)—the full impact of the demand reduction policy measures is phased in over a five-year period. The phase-in period follows WHO assumptions [86] that two years of planning and development are required before policies are up and running, followed by three years of partial implementation that are reflective of the time that is needed to roll out policies, and work up to full implementation and enforcement.

Tobacco taxes. The impact of cigarette tax increases on revenue and cigarette use prevalence was estimated using an Excel-based tool developed to analyse the impact of tax increases on a fixed population cohort. The tool is populated with data, including on current cigarette smoking prevalence, the tax structure and applied tax rates, cigarette prices, demand elasticities, and inflation and income projections (see **Table A1**).

Table A1: Key parameters used in the tax revenue analysis

Parameter name	Value	Source
Price elasticity of demand	-0.64	Chalak et al., (2021). Own-price and cross-price elasticities of demand for cigarettes and waterpipe tobacco in three Eastern Mediterranean countries: a volumetric choice experiment [87]
Prevalence elasticity of demand	-0.32	Goodchild M., Perucic A. M., and Nargis N.,(2016). Modelling the impact of raising tobacco taxes on public health and finance [88]

The investment case analysis examines a tax increase scenario in which Lebanon chooses to enact strong tax increases. In the hypothetical scenario, Lebanon's introduces a specific excise tax alongside its current tax structure. In real terms, the specific excise tax increases from current rates (LBP 0 per pack) to LBP 1,130 in 2027.

In the scenario, the price net of taxes remains static (full pass through of the tax increase). **Table A2** breaks down cigarette pack price components from 2023 to 2027 under the described scenario. For the main investment case analysis, additional specific excise taxes triggering real price increases of an average of 7.4 percent annually are modeled from 2027 to 2037, bringing the total tax share to 75 percent by the end of the analysis and the excise tax share to 65 percent.

Table A2: Projected cigarette pack price in the tax increase scenario (LBP, in real terms)[15]

Price component	2023	2024	2025	2026	2027
Price net of taxes	2,252.25	2,252.25	2,252.25	2,252.25	2,252.25
Specific excise	0.00	0.00	376.88	753.75	1,130.63
Ad valorem	0.00	0.00	0.00	0.00	0.00
Value added tax	247.75	247.75	289.20	330.66	372.12
Other taxes	0.00	0.00	0.00	0.00	0.00
Final consumer price *	2,500.00	2,500.00	2,918.33	3,336.66	3,754.99
* Figures subject to rounding.					

The impact of tax increases on revenue and cigarette use prevalence is dependent on prevailing elasticities: the extent to which individuals change use of a product (e.g., decrease consumption or quit) because of changes in the price of a tobacco product. Changes are calculated following Joosens and colleague's (2009) [89], who use a log-log function to ensure large price increases do not result in implausible reductions in consumption or prevalence.

15 Numbers in Table A2 reflect the prices when modelling was done in 2021. Numbers are not updated per inflation.

Below, **Equation A1** provides an example of calculations to ascertain the impact of a change in price on smoking prevalence, considering changes in income.

Equation A1: The impact of changes in price on smoking prevalence

$$\Delta SP_i = SP_{i-1} * ((EXP\left(\mathcal{E}p * LN(op_{np})\right)) - 1 - \left[\frac{1+\epsilon_i\left(\frac{GDP_2-GDP_1}{GDP_2+GDP_1}\right)}{1-\epsilon_i\left(\frac{GDP_2-GDP_1}{GDP_2+GDP_1}\right)}\right]$$

Where:
SP = smoking prevalence (# of smokers) in year i
Ɛp = prevalence elasticity
Op_np = the ratio of the old price of a pack of cigarettes to the new price after tax increases
Ɛi = income elasticity
GDP = Gross domestic product in year

There are several limitations to the tax analysis. First, the tax tool assumes that the price and tax structure of the most sold brand of cigarettes is representative of the market, and it does not incorporate other market segments (high or low-end cigarettes). More detailed models that account for switching between segments or between products (e.g., movement to hand-rolled cigarettes) would capture nuance helpful to framing tobacco tax policy and estimating impact. Second, the analysis assumes a full pass through the tax increases. This assumption reflects a "middle ground" approach, but the tobacco industry may increase or decrease prices in reaction to the price increase. Third, we did not obtain Lebanon-specific estimates of price elasticities, and we did not take into account the influence of increases in income because data on income growth was not available for Lebanon from the World Economic Outlook database.

Brief advice to quit tobacco. We calculate the effect of scaling up the provision of brief advice to quit smoking at the primary care level. First, we calculate the baseline population quit rate (PQR, the percent of smokers who quit annually) drawing on previously published methods by Levy and colleagues (2010) [85]. The PQR is calculated (see **Equation A2**) using three parameters: quit attempts; treatment utilization rates (i.e. counselling, pharmaceutical therapy); and treatment effectiveness.

Equation A2: Calculating Population Quit Rate, from Levy et al (2010) [81]

$$PQR = QA * \sum_{i=1...4} (TxUse_i * TxEff_i)$$

Where:
PQR = Population quit rate
QA = % of smokers who make a quit attempt at least once annually
TxUse = the percent of those who make a quit attempt who use treatment category i
TxEff = The percent of those who use a given treatment who succeed in quitting annually (Treatment efficacy)
i = is one of four treatment categories: 1) no evidence-based treatment; 2) counselling; 3) pharmacological treatment (e.g. nicotine replacement therapy), or 4) both counselling and pharmacological therapy.

Again following Levy et al (2010), "to account for the effect of multiple quit attempts among those who fail at their first attempt, it was assumed that half of those that make at least one quit attempt per year go on to make a second attempt, and half of those [who make a second attempt] make a third, and so on," and that treatment effectiveness does not change based on whether it is a persons' first quit attempt or a succeeding one.

After establishing baseline PQR, we calculated how the population quit rate would change if provision of brief advice to quit at the primary care level became more prevalent. In this "intervention scenario", over the 15-year time horizon of the analysis, half of all primary health-care providers are trained to provide brief advice to quit to adult tobacco users—a value selected based on evidence of the current intervention coverage gap; on average, in low- and middle-income countries less than half (47.8 percent) of adult smokers who visit a health provider are advised to quit.[16] Once trained, it is assumed that the provider administers the brief advice when they encounter a patient who uses tobacco.

Taking into account the number of primary health-care providers in the country, the patient panel size per provider, adult smoking rates, and the percent of adult smokers who present within the health system for at least one primary care visit per year, in each year of the analysis we calculate the number of adult tobacco users who would encounter a newly trained health provider and receive the brief intervention—which increases the likelihood that an individual makes a quit attempt by 60 percent over baseline levels [85]. With increases in population quit attempts driven by the provision of brief advice, we recalculate PQR to estimate the number of smokers who quit as a result of the intervention. Data used to inform these calculations are shown in **Table A3**.

Table A3: Provision of brief advice – key parameters to calculate intervention impact

Parameter name	Value	Source
Population quit rate (PQR)		
Annual quit attempt rate (QA)	24.1%	WHO Stepwise Approach for Non-communicable Diseases Risk Factor Surveillance Lebanon, 2016-2017 [4]
Increase (%) in QA as a result of receiving brief advice	60%	Levy et al (2010). Modelling the impact of smoking-cessation treatment policies on quit rates [85]
Treatment use (Tx Use)		
No evidence-based treatment	81%	Average values from GATS of LMICs conducted between 2009 to 2018*
Pharmaceutical assistance	7%	Average values from GATS of LMICs conducted between 2009 to 2018*

16 Analysts pulled data from GATS surveys conducted between 2009 to 2018 and averaged values from low- and middle-income countries.

Counselling	11%	Average values from GATS of LMICs conducted between 2009 to 2018*
Both pharmaceutical assistance and counselling	1%	Average values from GATS of LMICs conducted between 2009 to 2018*
Treatment effectiveness		
No evidence-based treatment	7%	Levy et al., (2010). Modelling the impact of smoking-cessation treatment policies on quit rates [85]
Pharmaceutical assistance	15%	Abrams et al., (2010). Boosting population quits through evidence-based cessation treatment and policy [90]**
Counselling	12%	Abrams et al., (2010). Boosting population quits through evidence-based cessation treatment and policy [90]**
Both pharmaceutical assistance and counselling	22%	Abrams et al., (2010). Boosting population quits through evidence-based cessation treatment and policy [90]**
% of adult smokers who visit primary care clinic annually	38%	Average values from GATS of LMICs conducted between 2009 to 2018*
% of smokers who relapse after successfully quitting	60%	García-Rodríguez et al., (2013). Probability and predictors of relapse to smoking: Results of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) [91]
Number of primary care health providers	73,025	WHO (2021). Global Health Observatory [92]***
Annual patient panel size per health provider (# of patients)	550	Altschuler et al., (2012). Estimating a Reasonable Patient Panel Size for Primary Care Physicians With Team-Based Task Delegation [93]****

* Analysts pulled data from GATS conducted between 2009 to 2018 and averaged values from low- and middle-income countries.
** Compared to quit attempts that are made with no assistance from any form of evidence-based therapy, pharmaceutical assistance is 100 percent more effective, counselling 60 percent more effective, and combined therapy 200 percent more effective
*** Sum of two indicators in the WHO Global Health Observatory (GHO) for the latest year for which information was available: 1) number of general physicians and 2) number of nursing personnel. Given that specific estimates for primary care nursing personnel are not given from the source, we assume the proportion of primary care nurses is the same as the proportion of generalist doctors to all doctors as given in the GHO.
**** Study results show that a primary care health provider working under a nondelegated model of care can reasonably care for a panel of 983 patients in a year and that in a conservative scenario where non-physician providers assume some responsibility for care patient panel sizes can expand to 1387 patients. In most countries, a nondelegated model of care is the status quo. However, in this analysis, nurses are trained to offer brief advice and assume some responsibility for administering it. Therefore a patient panel size is likely to be somewhere in the range of 983 to 1,387 patients. We assume a panel size of 1,100 and that an individual practitioner on the team covers half of the patients (550) per year.

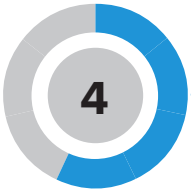
Summary: the impact of tobacco demand reduction measures. The impact sizes of all policy measures examined in the investment case are displayed in **Table A4**. Additional information on their derivation can be found in the *Technical Appendix*.[17]

Table A4: Impact size: Relative reduction in the prevalence of current smoking by tobacco control policy/intervention, over a period of five (2023-2027) and 15 years (2023-2037)

WHO FCTC policy actions	Relative reduction in the prevalence of current smoking	
	First five years (2023-2027)	Over 15 years (2023-2037)
Tobacco control package* (all policies/interventions implemented simultaneously)	**27.5%**	**51.6%**
Increase taxes on cigarettes (WHO FCTC Article 6)	12.7%	33.3%
Create smoke-free public places and workplaces (WHO FCTC Article 8)	1.7%	2.8%
Mandate that tobacco product packages carry large health warnings (WHO FCTC Article 11)	7.2%	12.0%
Implement plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13)	2.4%	4.0%
Promote and strengthen public awareness of tobacco control issues, including the health risks of tobacco use and tobacco smoke, addiction, and the benefits of cessation (WHO FCTC Article 12)	6.7%	11.2%
Promote tobacco cessation and treatment for dependence by training health professionals to provide brief advice to quit tobacco (WHO FCTC Article 14)	0.1%	0.5%

* The combined impact of all interventions is not the sum of individual interventions. Following Levy and colleagues' (2018) "effect sizes [are applied] as constant relative reductions; that is, for policy i and j with effect sizes PRi and PRj, (1-PR ii) x (1-PR j) [is] applied to the current smoking prevalence" [64].

17 Available upon request.



STEP 4

Estimate the impact of changes in smoking prevalence on tobacco-attributable health outcomes and economic costs.

To analyse the impact of policy measures on reducing the health and economic burden of smoking, the investment case calculates and compares two scenarios. In the "status quo scenario", current efforts are "frozen", meaning that, through the year 2037 (end of the analysis), no change occurs from the tobacco control provisions that are currently in place. In the "intervention scenario", Lebanon implements new tobacco measures or intensifies existing ones, to reduce the prevalence of smoking. The difference in health and economic outcomes between the "status quo" and "intervention" scenarios represents the gains that Lebanon can achieve by taking targeted actions to reduce tobacco use.

The marginal effects of the policies are calculated using the status quo scenario as the comparison group. To calculate marginal effects, the model subtracts the outcome (risk factor attributable deaths, health-care expenditures, etc.) under the intervention scenario from the same outcome under the status quo scenario. The difference between the two outcomes is the amount of change in the outcome associated with the policy.

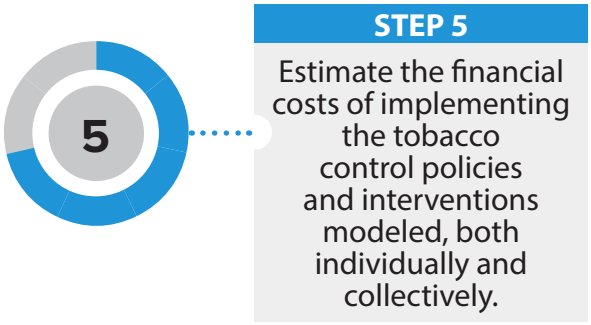
Marginal Effects = Outcome Base Scenario — Outcome Intervention Scenario

Marginal effects are calculated as follows for each outcome:

- **Health outcomes:** To calculate the reductions in mortality and morbidity due to implementation of the policy measures, forecasted changes in smoking prevalence are applied directly to the GBD risk factor attributable outcomes from the status quo scenario. This means that the model adjusts the risk factor attributable outcomes for mortality and morbidity as reported by GBD based on year-over-year relative changes in smoking prevalence for each outcome.

- **For health-care expenditures**, the model applies forecasted annual relative changes in smoking prevalence for each intervention scenario to the SAFs. SAFs are adjusted in proportions equal to the relative change in smoking prevalence for each intervention scenario.

- **Workplace smoking outcomes** are recalculated substituting actual (status quo) smoking prevalence for estimated annual smoking prevalence for each of the intervention scenarios that are modeled.



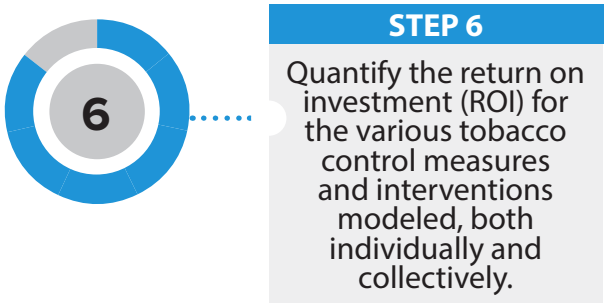
The financial costs to the government of implementing new measures—or of intensifying or enforcing existing ones—is estimated using the WHO NCD Costing Tool. Full explanations of the costs and assumptions embedded in the WHO NCD Costing tool are available [86].

The Costing Tool uses a "bottom up" or "ingredients-based" approach. In this method, each resource that is required to implement the tobacco control measure is identified, quantified, and valued. The Costing Tool estimates the cost of surveillance, human resources—for programme management, transportation, advocacy, and enacting and enforcing legislation—trainings 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 (year 6 and onward).

Across these categories, the Costing Tool contains default costs from 2011, which are sourced from the WHO CHOICE costing study. Following Shang and colleagues, the Costing Tool is updated to reflect 2020 costs by updating several parameters: the US$ to local currency unit exchange rate (2020); purchasing power parity (PPP) exchange rate (2020); GDP per capita (USD, 2020); GDP per capita purchasing power parity (PPP, 2020); population (total, and share of the population age 15+, 2020); labour force participation rate (2020); gas per litre; and government spending on health as a percent of total health spending (2019) [94]. Unless government or other in-country parameters are received, data is from the World Bank database, with the exception of data on the share of government health spending and population figures. The share of government spending on health as a percent of total health spending is derived from the WHO Health Expenditures database, and population figures are from the UN Population Prospects.

To cost the scale up of the provision of brief advice to quit tobacco use, the analysis adds to the programmatic costs embedded in the WHO Costing Tool by including costs to train health providers and the direct costs of the primary care visits in which the brief advice is

administered. Over the 15-year time horizon of the analysis, half of all primary care health providers are trained to administer brief advice to quit tobacco.[18] Based on WHO's training package for treating tobacco dependence in primary care [96], we assume that training sessions last 2.5 days, are conducted with a maximum of 30 participants, and are led by a team of two facilitators. We further assume that the training occurs in person in a rented facility space. Costs of training include those to rent the facility,[19] pay facilitators, and provide per diems to facilitators and attendees, and we also assume that trainees (doctors and nurses) are compensated for their time at their wage rate.[20] Once trained, providers are assumed to provide brief advice if they encounter a patient who smokes. The cost of providing brief advice during primary care visits is based on modeled, country-specific estimates from WHO-CHOICE of the cost or primary care outpatient visits [98]. The derivation of these estimates is detailed elsewhere [99], but in overview, the estimates reflected the "hotel cost" of a 10-minute visit[21] to a health facility with beds. We updated the estimates to 2020 local currency units, using 2010 PPP conversion factors and local consumer price indices [100]. Administration of the 5A's (Ask, Advise, Assess, Assist and Arrange) brief intervention is assumed to take 10 minutes [101]. Following WHO CHOICE methodology, we estimate the cost of those extra 10 minutes as an extra 21 percent of the original cost of the primary care visit.



The ROI analysis measures the efficiency of tobacco control investments by dividing the discounted monetary value of health gains from investments by their discounted respective costs.

ROIs were calculated for each of the five tobacco control policy actions modeled, and for the five interventions together as a package. Estimates from Steps 3, 4 and 5 were used to calculate ROIs at 5- and 15-year intervals.

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

18 The analysis assumes a 10 percent of health workers turn over annually [95].

19 Rental costs per square foot are obtained from the WHO Costing Tool with the room size estimated is based on square feet per person estimates for collaboration rooms [97].

20 Compensation costs for trainers, per diem estimates, and provider salaries are obtained from the WHO Costing Tool.

21 The analysis assumes that the mean duration of a clinic visit is 10-minutes, following guidance from the WHO NCD Costing Tool.

A1.4 Summary of WHO FCTC demand reduction measure status

Figure 1 in the main text is based on data from the WHO report on the Global Tobacco Epidemic, 2021 [42]. In the Figure, the level-of-implementation categories of "no/little implementation", "partial implementation", "moderate implementation", and "meeting WHO FCTC recommendations" are mapped to the descriptions in Table A5, as specified and further detailed in Technical Note I of the WHO report (see page 119).

Investment case analysts assigned scores between 0 to 3 for demand reduction measure depending on the level of implementation. For four measures—graphic warning labels, plain packaging, public awareness of tobacco control issues, and tobacco cessation—we assigned whole number scores (i.e. 0, 1, 2, or 3) that mapped to the four levels of implementation described above and detailed in Table A5. For increases in cigarette taxation, smoke-free public places and workplaces, and TAPS bans, we adjusted the level-of-implementation score creating a decimal value as follows:

- For 1) smoke-free public places and workplaces and 2) TAPS bans, we adjusted the score to account for reported levels of compliance in the WHO Report on the Global Tobacco Epidemic (Compliance Score). Following previously published assumptions by Levy and colleagues (2013), we assumed that respectively 25 percent and 50 percent of the effect of these measures depends on levels of compliance [102]. Thus, for a country with "moderate implementation" of TAPS bans but a compliance score (as detailed in the WHO Report on the Global Tobacco Epidemic) of 5 out of 10, we calculated the score as follows: Measure Score – (0.5*Compliance Score/10) = 2 – (0.5*(5/10) = 1.75. For countries that did not report a compliance score we assumed the average of compliance scores worldwide.
- For 3) cigarette taxation, all countries in which the total tax share equalled 75 percent or above received a score of 3. All countries below that mark were assigned a score as follows: 3*(Total tax share/0.75). Thus a country with a total tax share of 35 percent received a score of 1.4 (3*(.35/.75)).

Ultimately, most measures are weighted equally (counting as 3 points if fully implemented) except for plain packaging (counting as 1 point if fully implemented). Analysts selected 1 point for plain packaging because: 1) Unlike for the other measures, plain packaging operates on a 0,1 scale—either the measure is in place or it is not (i.e. there are no gradations of the policy—there is little benefit to mandating that half of the package is "plain" while the rest is open to colouring or other attributes); 2) In the WHO Report on the Global Tobacco Epidemic plain packaging is scored as a "star" on top of the graphic warning labels acting as a supportive add on to other labelling requirements.

The total score a country can receive for implementation of the key demand reduction measures (i.e. composite tobacco control score) is 19. A country with a composite tobacco control score of 12/19 may be said to have implemented about 63 percent of the WHO FCTC key demand reduction measures agenda.

Table A5: Definition of WHO FCTC implementation status in Figure 2 (main text)

WHO FCTC demand reduction measure	No/little implementation	Partial implementation	Moderate implementation	High-level implementation
Increase cigarette taxation to reduce the affordability of tobacco products (WHO FCTC Article 6)	0% of retail price is tax, or no data is reported.	≥ 25% and <50% of retail price is tax.	≥ 50% and <75% of retail price is tax.	≥ 75% of retail price is tax.
Create smoke-free public places and workplaces to protect people from the harms of tobacco smoke (WHO FCTC Article 8)	Complete absence of ban, or up to two public places completely smoke-free, or no data is reported.	Three to five public places completely smoke-free.	Six to seven public places completely smoke-free.	All public places completely smoke-free (or at least 90% of the population covered by complete subnational smoke-free legislation).
Require tobacco packaging to carry graphic health warnings describing the harmful effects of tobacco use (WHO FCTC Article 11)	No warnings or small warnings, or data not reported.	Medium size warnings missing some appropriate characteristics or large warnings missing many appropriate characteristics.	Medium size warnings with all appropriate characteristics or large warnings missing some appropriate characteristics.	Large warnings with all appropriate characteristics.
Implement plain packaging of tobacco products (WHO FCTC Guidelines for Implementation of Article 11 and WHO FCTC Guidelines for Implementation of Article 13)	Plain packaging is not mandated.	-	-	Plain packaging is mandated.

WHO FCTC demand reduction measure	No/little implementation	Partial implementation	Moderate implementation	High-level implementation
Promote and strengthen public awareness about tobacco control issues and the addictive nature and harms of tobacco use through mass media information campaigns (WHO FCTC Article 12)	No national campaign conducted between July 2018 and June 2020 with a duration of at least 3 weeks, or no data is reported.	National campaign conducted with one to four appropriate characteristics.	National campaign conducted with five to six appropriate characteristics.	National campaign conducted with at least seven appropriate characteristics including airing on television and/or radio.
Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship – TAPS (WHO FCTC Article 13)	Complete absence of ban, or ban that does not cover national television, radio and print media.	Ban on national television, radio and print media only.	Ban on national television, radio and print media as well as on some but not all other forms of direct and/or indirect advertising.	Ban on all forms of direct and indirect advertising (or at least 90% of the population covered by subnational legislation completely banning tobacco advertising, promotion and sponsorship).
Develop infrastructure to support tobacco cessation and treatment of tobacco dependence (WHO FCTC Article 14)	None, or no data are reported.	Nicotine Replacement Therapy (NRT) and/or some cessation services (neither cost-covered).	NRT and/or some cessation services (at least one of which is cost-covered).	National quit line, and both NRT and cessation services routinely cost-covered.

Source: Information in this table is based on the *WHO Report on the Tobacco Epidemic*, 2021 [42].

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