

Investment Case for
Tobacco Control in

FIJI

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ISBN (WHO) 978-92-4-009173-3 (electronic version)

ISBN (WHO) 978-92-4-009174-0 (print version)

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**The case for scaling-up
WHO FCTC Implementation
in Fiji**



More than **1,200** Fijians die
every year due to tobacco-related
illnesses, accounting for nearly
17% of all deaths in the country.

Tobacco costs Fiji

FJD 319 million

every year, equivalent to

**2.7% of annual
GDP.**



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

5,400 deaths

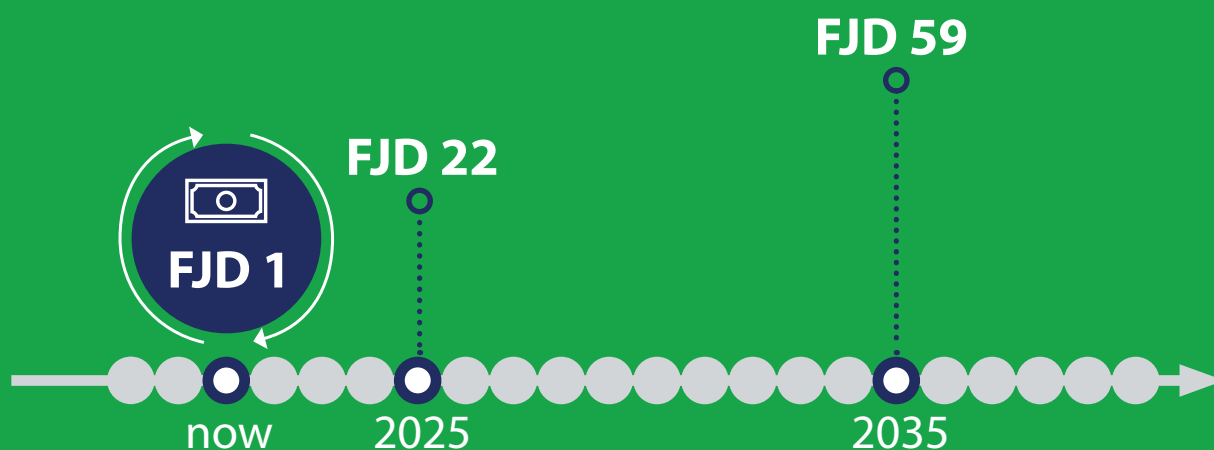
and avert

FJD 900 million

in health costs and economic losses by 2035.



For every **Fijian dollar** invested in five priority tobacco-control measures today, Fiji will receive **FJD 22** in averted costs and economic losses by 2025 and **FJD 59** by 2035.



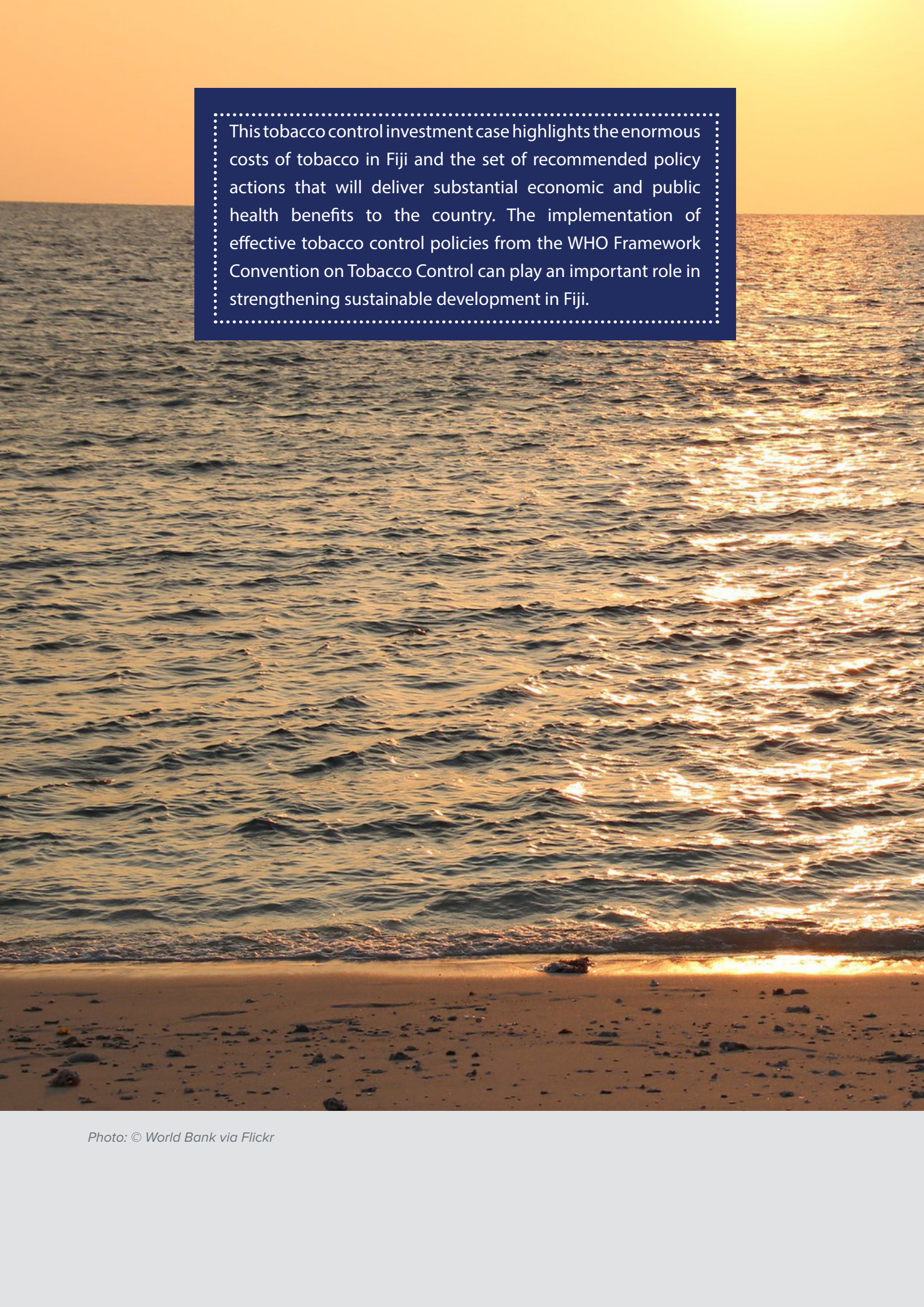
Acknowledgements

This report was completed through collaborative efforts of the Fijian Ministry of Health and Medical Services, the United Nations Development Programme (UNDP), the Secretariat of the WHO Framework Convention on Tobacco Control (the Secretariat of the WHO FCTC), and the World Health Organization (WHO).

The investment case report has been made possible through the FCTC 2030 project which is generously funded by the Governments of Australia, Norway and the United Kingdom of Great Britain and Northern Ireland. Contributors include Vimal Deo and Kasanita Kalisoqo from the Ministry of Health; Bernardo Menescale Ferreira da Silva, Mashida Rashid, Kazuyuki Uji, Sharad Neupane, Dudley Tarlton, Roy Small, Roman Chestnov, Daniel Grafton, Luis D'Souza and Emily Roberts from the United Nations Development Programme (UNDP); Adriana Blanco Marquizo, Andrew Black, Trinette Lee, Tih Ntiabang, Jacqui Drope and Ferdinand Strobel from the Secretariat of the WHO FCTC; Ada Moadsiri and Mina Kashiwabara from WHO. The economic modelling was performed by Brian Hutchinson and Garrison Spencer. Additional research and drafting contributed by Beini Liu, Margaret Ho and Udanyi Egboja. Zsuzsanna Schreck completed the graphic design and layout of the report.

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A photograph of a sunset over the ocean. The sun is low on the horizon, creating a bright orange and yellow glow across the sky and reflecting on the water's surface. The water is dark blue with small, choppy waves. In the foreground, a sandy beach is visible, with some small rocks and debris scattered across it. A dark blue rectangular box with a white dotted border is positioned in the upper left quadrant of the image, containing white text.

This tobacco control investment case highlights the enormous costs of tobacco in Fiji 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 Fiji.



Executive summary

Overview

Tobacco is a health and sustainable development issue. Tobacco causes early death and disease, results in high health costs and economic losses, widens socioeconomic inequalities, and impedes progress across the Sustainable Development Goals (SDGs).

This report presents the findings of the case for investing in tobacco control in Fiji, a stated priority of the Government of Fiji. In line with the [WHO Framework Convention on Tobacco Control \(WHO FCTC\) Global Strategy to Accelerate Tobacco Control](#), it measures the costs and benefits—in health and economic terms—of implementing five priority tobacco control measures. The five measures are: 1) increase tobacco taxation to reduce the affordability of tobacco products (WHO FCTC Article 6); 2) Create smokefree public and work places to protect people from the harms of tobacco smoke (WHO FCTC Article 8); 3) implement plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13); 4) enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (WHO FCTC Article 13); and 5) 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).

Main findings

In 2019, tobacco use caused FJD 319 million in economic losses. These losses are equivalent to 2.7 percent of Fiji's GDP and are about 4.3 times more than the revenue generated by cigarette taxes. The losses include 1) FJD 11.5 million in healthcare expenditures, and 2) FJD 307 million in indirect losses due to tobacco-attributable mortality and ill-health as well as workplace smoking breaks. The indirect economic losses from current tobacco use in Fiji—96 percent of all tobacco-related costs—indicate that tobacco use impedes development in Fiji beyond health; multisectoral engagement is required for effective tobacco control, and other sectors benefit substantially from supporting tobacco control investments, through a healthier and more productive labour force.

Every year, tobacco use kills more than 1,200 Fijians, with 71 percent of these deaths among individuals under age 70 (i.e. premature death). Around one-quarter (27 percent) of lives lost from tobacco use are due to exposure to secondhand smoke.

Fiji is one of the first countries to ratify the WHO Framework Convention on Tobacco Control (WHO FCTC). By taking steps to fulfill its remaining obligations to the treaty, Fiji shows its leadership and commitment to reduce the burden from tobacco use and noncommunicable diseases (NCDs). The investment case findings demonstrate that enacting and enforcing five proven WHO FCTC measures would, over the next 15 years:

Avert FJD 900 million in economic losses. Of this total, FJD 867 million is attributable to avoiding indirect losses due to tobacco-attributable mortality and ill-health. The tobacco control measures stimulate economic growth by ensuring that fewer people 1) die due to tobacco-attributable diseases, 2) miss days of work due to disability or sickness, and 3) work at a reduced capacity due to smoking breaks or tobacco-related health issues.

Lead to FJD 32 million in savings through avoidance of tobacco-attributable healthcare expenditures. Of this, the Government would save FJD 22 million in healthcare expenditures, citizens would save FJD 5 million in out-of-pocket healthcare costs, and FJD 5 million would be saved from other sources of healthcare expenditures.

Save 5,400 lives and reduce the incidence of disease. The recommended WHO FCTC measures contribute to Fiji's efforts to achieve SDG Target 3.4 to reduce by one-third premature mortality (under age 70) from non-communicable diseases (NCDs) by 2030. Enacting the WHO FCTC measures would prevent more than 1,400 premature deaths from the four main NCDs—cardiovascular disease (CVD), diabetes, cancer, and chronic respiratory disease—by 2030, the equivalent of about 12 percent of the needed reduction in premature mortality to achieve SDG Target 3.4.

Provide economic benefits (FJD 900 million) that significantly outweigh the costs of implementing the five WHO FCTC measures (FJD 15 million). Enforcing bans on tobacco advertising, promotion, and sponsorship delivers the highest return on investment (273:1), followed by increasing cigarette taxes (163:1), enforcing bans on smoking in public places (147:1), implementing plain packaging of tobacco products (72:1), and cessation by training health professionals to provide brief advice to quit smoking (7:1).

This report recommends actionable steps, in addition to the modeled WHO FCTC provisions, that the Government of Fiji can take to strengthen a whole-of-government approach to tobacco and its development consequences. Through the FCTC 2030 Project, the Secretariat of the WHO FCTC, UNDP and WHO stand ready to support the Government of Fiji to reduce the social, economic, and environmental burdens that tobacco continues to place on its country.

Recommendations

- 1 Increase taxes and harmonize the tax rates on all tobacco products.
- 2 Strengthen national multisectoral tobacco control planning and coordination to drive a whole-of-government and whole-of-society approach to tobacco control.
- 3 Commit to fully implement the WHO FCTC and invest in strengthening the WHO FCTC policy actions modeled in this investment case to reduce tobacco use prevalence and protect the population.
- 4 Enact specific measures to protect tobacco control policies from tobacco industry interference.

Table ES1: Summary of the main results of the investment case for tobacco control in Fiji*

Every year, tobacco use causes...	Over 15-years, implementing new tobacco control measures or intensifying existing ones would...
More than 1,200 deaths each year	Save more than over 5,400 lives
FJD 11.5 million in healthcare expenditures	Save FJD 32 million in healthcare expenditures
FJD 307 million in indirect economic losses	Avoid FJD 867 million in indirect economic losses
Overall economic losses equivalent to 2.7% of GDP and 4.3 times more than the revenue generated through cigarette taxation	Generate overall economic benefits (FJD 900 million) that greatly outweigh the cost (FJD 15 million) of implementation and enforcement – a 59:1 return on investment

*Figures subject to rounding.

1. Introduction

Tobacco is one of the world's leading health threats, and a main risk factor for NCDs including cancers, diabetes, chronic respiratory disease and cardiovascular disease. In Fiji, around one in three people currently use some form of tobacco product [1], leading to an estimated 1,271 deaths every year [2]. About 70 percent of those deaths occur among those under age 70 [2].

Alongside the cost to health, tobacco imposes a substantial economic burden. A 2018 study (based on 2012 data) found that the costs of smoking¹ 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 [3]. Further, tobacco use can reduce productivity by permanently or temporarily removing individuals from the labor market due to poor health [4]. When individuals die prematurely, the labor output that they would have produced in their remaining years is lost. In addition, individuals with poor health are more likely to miss days of work (absenteeism) or to work at a reduced capacity while at work (presenteeism) [5], [6].

Tobacco use may displace household expenditure that would otherwise go to fulfilling basic needs, including food and education [7]–[9], and it contributes to hunger and impoverishment among families [10], [11]. It imposes health and socio-economic challenges on the poor, women, youth and other vulnerable populations [12].

Tobacco production causes environmental damage including soil degradation, water pollution and deforestation [13]–[15]. Given the far-reaching development impacts of tobacco, and the multisectoral nature of the interventions required, effective tobacco control requires the engagement of non-health sectors within the context of a whole-of-government and whole-of-society approach.

Current tobacco use trends in Fiji and around the world are incompatible with sustainable development. Through Sustainable Development Goal (SDG) Target 3.4, the 2030 Agenda for Sustainable Development commits Member States to achieve a one-third reduction in premature mortality from NCDs (i.e. deaths between 30 and 70) by 2030. Accelerating progress on NCDs requires strengthened implementation of the WHO FCTC (SDG Target 3.a). Tobacco control is not just a primary means to improve population health, but also a proven approach to reduce poverty and inequalities, grow the economy and advance sustainable development. Tobacco control is an

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

SDG accelerator as it can contribute to many goals simultaneously across the economic, social, and environmental spheres. However, more work must be done to reverse the tobacco epidemic including by accelerating implementation of the WHO FCTC.

Fiji was the first low- and middle-income country (LMIC) to ratify the WHO FCTC in 2003 and further demonstrated its commitment to tobacco control by ratifying the Protocol to Eliminate Illicit Trade of Tobacco Products in 2019.

Prior to becoming a Party to the WHO FCTC, Fiji had in place the Tobacco Control Act 1998 and Tobacco Control Regulations 2000, which instituted some restrictions on tobacco advertising, promotion and sponsorship; required textual health warnings; and designation of smoke-free zones. Since becoming a Party, these have been replaced by the Tobacco Control Decree 2010 [16] and Tobacco Control Regulations 2012 [17], Fiji's primary tobacco control legislation. The legislation and subsequent amendments included new measures such as graphic health warnings; licensing for manufacture, import and distribution of tobacco products; registration of tobacco product wholesalers and retailers and *suki* vendors; and ban on sale of single sticks, among others. E-cigarettes have also been included in the definition for the sale, use and advertising to be regulated in the same way as other tobacco products.

In 2020, the Secretariat of the WHO FCTC, UNDP and WHO undertook a virtual joint mission with partners in Fiji to initiate an investment case as part of the FCTC 2030 Project [18]. The FCTC 2030 Project is a global initiative funded by the Governments of Australia, Norway and the United Kingdom to support countries to strengthen WHO FCTC implementation to achieve the SDGs. As of 2022, Fiji is one of 33 countries worldwide that have participated in the FCTC 2030 project.

An investment case analyzes the health and economic costs of tobacco use as well as the potential gains from scaled-up implementation of WHO FCTC measures. It identifies which WHO FCTC demand-reduction measures will produce the largest health and economic returns for Fiji (the return on investment; ROI). In consultation with the Government of Fiji, the investment case models the impact of implementing the following five key WHO FCTC provisions:



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



Create smokefree public and work places to protect people from the harms of tobacco smoke (WHO FCTC Article 8)



Implement plain packaging² of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13)



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



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 Fiji, including tobacco use prevalence as well as challenges and opportunities. **Chapter 3** summarizes the methodology of the investment case (for more detail see Section 7: Methodology Annex, and the separate Technical Appendix [available upon request]). **Chapter 4** reports the main findings of the economic analysis. **Chapter 5** examines the impact that increasing cigarette taxes has on government revenue and the contributions that tobacco control measures make to Fiji's fulfillment of the Sustainable Development Goals. The report concludes under **Chapter 6** with recommendations. The annex provides information on the methods underlying the various analyses described in the report.

2 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>

2. Tobacco control in Fiji: status and context

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

About one-third of the Fijian population (31 percent) aged 25 to 64 are current smokers, with higher prevalence among males (47 percent) compared to females (14 percent) [1]. Approximately half of the population of current smokers are also daily smokers, with 78 percent of daily smokers consuming manufactured cigarettes. Daily smokers in Fiji smoke less intensely (6.9 cigarettes per day) than daily smokers globally (18 cigarettes per day) [1]. Stronger regulatory measures and cessation incentives and support are required to prevent a rebound in smoking prevalence and achieve a further reduction in the number of tobacco users in the country.

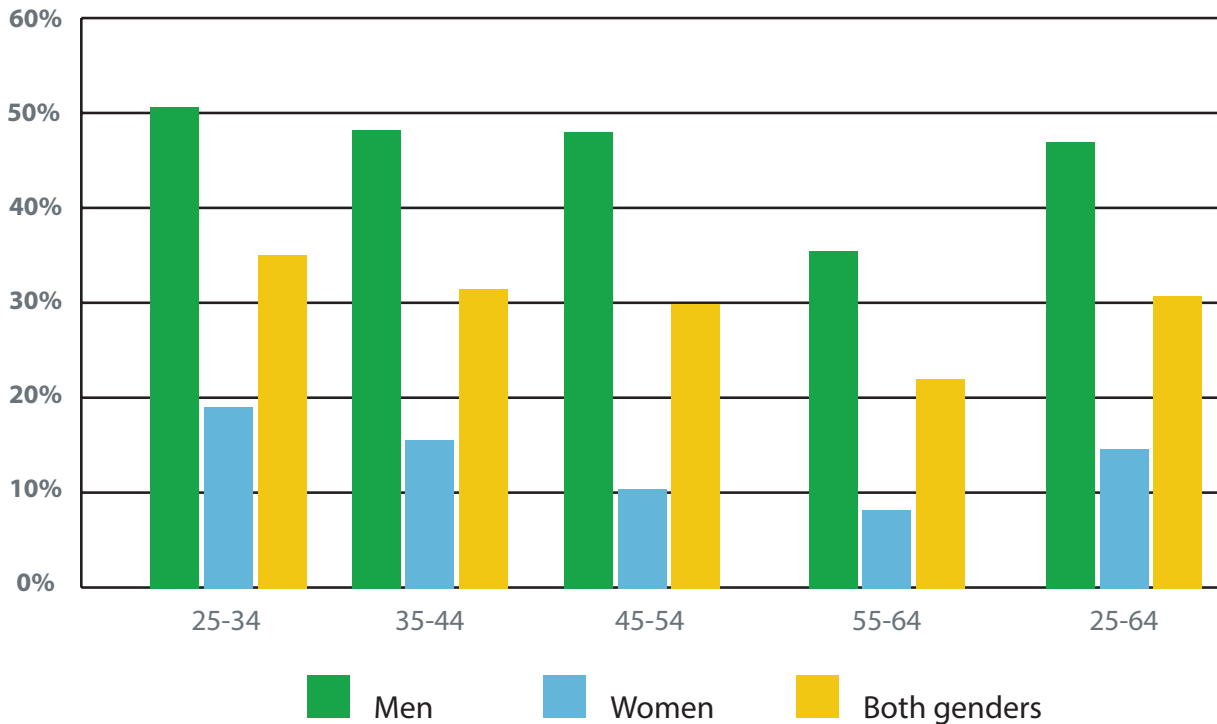
Smoking prevalence in Fiji varies significantly between demographic groups. Men across all age groups have higher smoking rates than women, and overall smoking is most common in younger adults aged 25-34 (**Figure 1**). In 2002, the first WHO STEPwise approach to surveillance (STEPS) survey conducted in Fiji found prevalence of daily smoking among those aged 15-64 to be 26 percent for men and 4 percent for women [19]. The 2011 STEPS survey focused on those aged 25-64 years and found that 27 percent of men and 6 percent of women smoked daily [1]. When we compare the 2002 and 2011 daily smoking rates for those aged 25-64 years (17.5 percent vs 16.6 percent), there is no statistically significant difference, which means smoking prevalence remained largely the same. A decrease in the average age of smoking initiation among Fijian daily smokers aged 25-64 from 22.2 years in 2002 to 20.7 in 2011, is a cause for concern.

The 2016 Global Youth Tobacco Survey (GYTS) found that 9 percent of 13-15 year-old students in Fiji use some form of tobacco with 7.6 percent being current tobacco smokers and 2.1 percent being current smokeless tobacco users. Despite existing sales restrictions, close to 50 percent of student-smokers were able to purchase cigarettes at supermarkets, shops, street vendors, or grog/kava parlors. Forty percent of surveyed students who visited a point of sale in the past 30 days were exposed to tobacco advertisements or promotions at these retail sites. More than half of current youth smokers (55 percent) who noticed warning labels on cigarette packages thought about quitting because of the warning label, and nearly two in three students surveyed noticed anti-tobacco messages in the media [20].

Many adolescents view smoking as a social lubricant – about one quarter of adolescents surveyed in the 2016 GYTS thought tobacco helped people feel more comfortable at celebrations, parties, and other social gatherings [20]. According to a 2019 study of adolescent iTaukei Fijian girls, three quarters of respondents expressed certainty that smoking cigarettes is harmful to health [21]. This sentiment was also found in the 2016 GYTS where three in five students aged 13-15 years old

thought other people's tobacco smoking was harmful to them. Notably, impact on sporting ability was mentioned as a major detriment of tobacco use among youth [22].

Fig. 1: Current smoking prevalence by gender and age



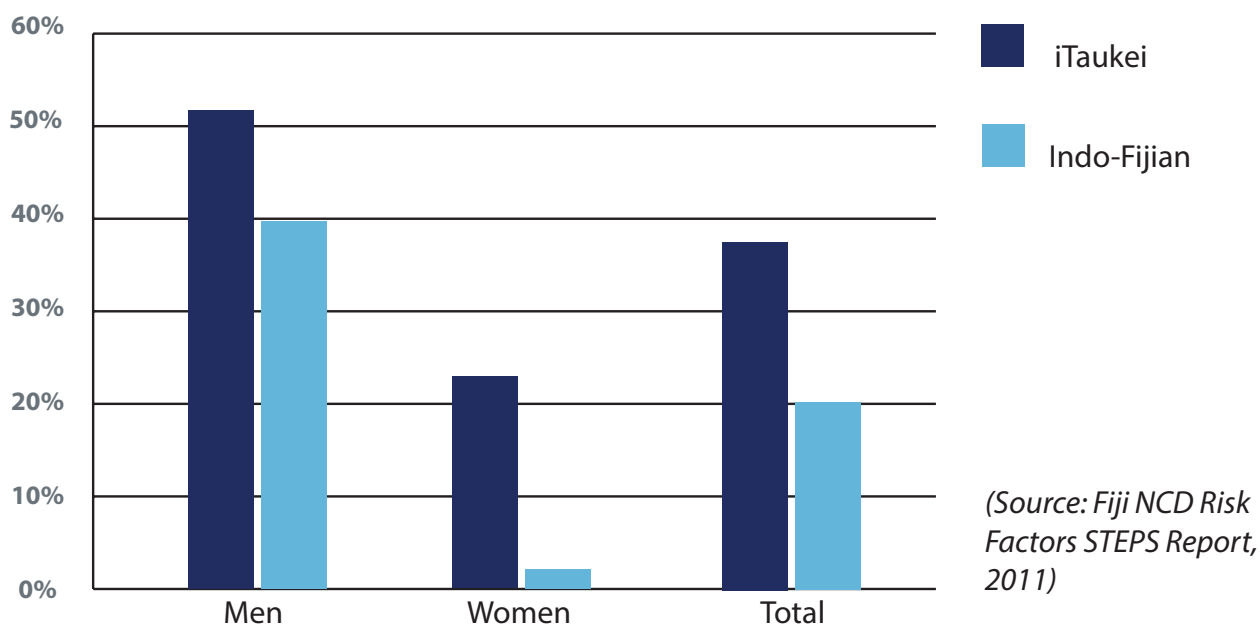
(Source: Fiji NCD Risk Factors STEPS Report, 2011)

Photo: © World Bank via Flickr



Compared to countries with similar human development index (HDI) scores, adult women in Fiji smoke at higher rates and subsequently suffer from higher tobacco-attributable mortality [23]. Among ethnic groups, more iTaukei (38 percent) smoke compared to Indo-Fijians (20 percent). Among women specifically, iTaukei women smoke at a rate nearly 10 times that of Indo-Fijian women (**Figure 2**) [1].

Fig. 2: Current smoking prevalence by ethnicity



Exposure to secondhand smoke is common in Fiji – 60 percent of Fijians reported being exposed to secondhand smoke at home and about 50 percent in the workplace [1]. The effects of secondhand smoke are not limited to adults – 1 in 3 students aged 13-15 years reported being exposed to tobacco smoke at home, and 45 percent were exposed to secondhand tobacco smoke inside enclosed public spaces [20]. Notably, despite these concerns, smoking is thought of as a means of reducing stress as a means of reducing stress, especially stress in working adults [20], [23].

2.2 The status of WHO FCTC tobacco control demand-reduction measures

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

While Fiji is fulfilling several obligations under the WHO FCTC, implementing additional measures—or strengthening existing ones—can further align Fiji with the WHO FCTC to reduce the substantial costs imposed by tobacco use. This section summarizes the current state of WHO FCTC demand-reduction measures and the target level advocated for and analyzed within the investment case.



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

According to the WHO Report on the Global Tobacco Epidemic 2019, in Fiji, taxes account for 42.1 percent of the retail price of the most sold cigarette brand, of which 33.8 percent is the excise tax share [24].³ Fiji applies a three-tier specific excise tax regime on cigarettes based on whether the final product contains locally grown tobacco, imported tobacco or a combination of the two [25]. *Suki*, a native form of tobacco, is not taxed. There is substantial scope to reach what is considered in the WHO Report on the Global Tobacco Epidemic as the highest level of achievement, which is for total taxes to represent at least 75 percent of the retail price. Additionally, WHO and the WHO FCTC Article 6 Guidelines for implementation recommend uniform specific taxes, for tax rates to be monitored, increased and adjusted on a regular basis, potentially annually, taking into account inflation and income growth.

The investment case examines the impact of raising cigarette taxes to levels considered in the WHO Report on the Global Tobacco Epidemic as the highest level of achievement. Beginning in 2023, the specific excise tax is raised an average of 1 Fijian dollar per year until 2028, with continued gradual increases of FJD 0.65 through 2035 (see Appendix for details). Increasing tobacco taxes to at least 75 percent of the retail price will decrease tobacco use and generate additional revenue for the Government that can be reinvested in tobacco control, universal health coverage and development. Increasing tobacco taxes will particularly benefit the poor who are more sensitive to price changes and therefore more likely to reduce their consumption or quit.

3 The model used 2018 tax rates from the WHO Report on the Global Tobacco Epidemic 2019 as modelling was done before the release of the WHO Report on the Global Tobacco Epidemic 2021. The 2021 report indicates that tax rates changed to 36.9 percent of the retail price of the most sold cigarette brand, of which 28.7 percent is the excise tax share.



Create smokefree public and work places to protect people from the harms of tobacco smoke (WHO FCTC Article 8)

Fiji has completely banned smoking in several types of indoor spaces (e.g., healthcare and educational facilities, restaurants, indoor stadiums/arenas). However, designated smoking areas are allowed in bars and nightclubs. In addition, exceptions apply in government facilities, indoor workplaces, private offices and cultural facilities. There are also concerns related to compliance with the existing smoking bans. While the WHO Report on the Global Tobacco Epidemic 2019 rated compliance as “high”, nearly half of Fijian students surveyed as part of the 2016 GYTS reported exposure to tobacco smoke in public places [20]. Implementing a complete ban on smoking in all public places, and strengthening enforcement, would further reduce exposure to secondhand smoke and provide social and economic benefits. The investment case examines the impact of enacting and enforcing comprehensive smokefree measures for all indoor public and work places, fulfilling obligations under the WHO FCTC.



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

The Tobacco Control Act 2010 and Tobacco Control Regulations 2012 require health warning to cover an area no less than 30 percent of the front surface and 90 percent of the back surface of cigarette packaging (60 percent of the combined surface area of cigarette packages), though the size is different for other tobacco products. During each calendar year, manufacturers or distributors are required to ensure that the different prescribed health warnings appear on equal numbers of containers of each brand of any tobacco product sold or distributed. This is so graphic warnings do not lose potency. Text warnings also need to appear in English on the front of retail packages and in iTaukei and Hindi on the back. Given that several requirements under WHO FCTC Article 11 are met, this intervention was not modeled in the investment case.



Implement plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13)

Fiji currently does not require plain packaging of tobacco products. The investment case models the impact of implementing and enforcing plain packaging requirements.



Promote and strengthen public awareness about tobacco control issues and the harms of tobacco use through mass media information campaigns (WHO FCTC Article 12)

Fiji's Non-Communicable Diseases Strategic Plan 2015-2019 provides for developing effective media activities on the dangers of smoking [26]. According to the WHO Report on the Global Tobacco Epidemic 2019, Fiji implemented an anti-tobacco national mass media campaign that met several of WHO's criteria for high-level implementation, such as target audience research, materials pre-testing and evaluation of the impact of the campaign [24]. As such, this intervention was not modeled in the investment case.



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

Fiji's Tobacco Control Act 2010 and Tobacco Control Regulations 2012 detail the restrictions on tobacco advertising, promotion and sponsorship. There is a high degree of compliance with the law. However, there is still room to strengthen the ban on TAPS such as point of sale display, product depiction on TV and films, sponsorship and corporate social responsibility. The investment case models the impact of enacting and enforcing a comprehensive ban on tobacco advertising, promotion and sponsorship.



Promote cessation of tobacco use and treatment for tobacco dependence: (WHO FCTC Article 14)

According to the WHO Report on the Global Tobacco Epidemic 2019, smokers in Fiji can avail of cost-covered cessation support in some health clinics. Pharmacological interventions are available but costs are not covered by the national health insurance scheme [24].⁴ Fiji's Non-Communicable Diseases Strategic Plan 2015-2019 details establishing tobacco cessation support in all sub-divisions and training for relevant staff/individuals [26]. The investment case examines the impact of expanding training for health providers to offer cessation advice in primary care settings.

4 The model used information from the WHO Report on the Global Tobacco Epidemic 2019. Since then, according to the Medicinal Products (Classification Scheme) Regulations 2021, nicotine replacement therapy can now only be sold in pharmacies. In October 2022, the Ministry of Health and Medical Services (MoHMS) launched Fiji's expanded tobacco cessation services, now accessible in five subnational hubs in Fiji's Central, Western and Northern Divisions. More information may be found here (<https://www.who.int/westernpacific/about/how-we-work/pacific-support/news/detail/03-10-2022-fiji-offers-expanded-support-to-those-who-want-to-quit-tobacco>).

Table 1 summarizes the existing state of WHO FCTC demand reduction measures and compares them against a target that would represent a high level of implementation for each measure. Reaching target goals can further reduce tobacco consumption. The impact of each policy measure—individually and in combination—is described in **Annex - Table A3**.

Table 1: Summary of the current state of WHO FCTC demand reduction measures in Fiji and target goals

Tobacco Control Policy	Fiji Baseline*	Modeled Implementation Target
Increase tobacco taxation to reduce the affordability of tobacco products (WHO FCTC Article 6)	Tax share equivalent to 42 percent of the retail price of the most sold cigarette brand.	Increase taxes on cigarettes to at least 75 percent of the retail price. Implement regular tax increases to outpace inflation and income growth. ⁵
Create smokefree public and work places to protect people from the harms of tobacco smoke (WHO FCTC Article 8)	Some indoor public places are completely smoke-free. However, designated smoking areas remain in many public spaces (e.g., bars, nightclubs, and indoor workplaces).	Enact and enforce comprehensive smokefree requirements for indoor public and work place.
Implement plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13)	There are currently no laws or other forms of regulations that mandate plain packaging of tobacco products.	Implement a law requiring plain packaging of tobacco products.
Enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion and sponsorship (TAPS) (WHO FCTC Article 13)	Most forms of domestic advertising are banned (e.g. tv, radio, print, billboards). However, other forms such as point of sale display as well as international TV, radio, internet and print media are restricted but not banned. In addition, tobacco companies can engage in some forms of sponsorship.	Ban all forms of direct and indirect TAPS, with strengthened enforcement to ensure compliance.
Promote cessation of tobacco use and treatment for tobacco dependence: Offer brief advice to quit at the primary care level (WHO FCTC Article 14)	Cost-covered cessation support is currently offered in some hospitals and health clinics. There is no national toll-free quit line and pharmacological interventions are available though cost is not covered by the national health insurance scheme.	<i>Modeled measures:</i> Expand training of primary healthcare providers to identify tobacco users and to provide tobacco cessation advice and scale the provision of tobacco cessation services at the primary care level.

* Source: Information in this column is based on the WHO Report on the Global Tobacco Epidemic, 2019 [24]

5 A simple analysis was used for the modelling, meaning there was no analysis of the multiple tiers of the cigarette tax in Fiji (see methodology annex for more details).

2.3 Tobacco use and the COVID-19 pandemic

The global COVID-19 pandemic has strained health systems worldwide, and the economic impact of the outbreak has been immense. People living with pre-existing NCDs, including those caused by tobacco use, are more vulnerable to becoming severely ill with COVID-19 [27]. According to WHO, smokers have up to a 50 percent increased risk of developing severe disease or dying from COVID-19 [28]. However, more research needs to be conducted. Well-designed population-based studies are necessary to address questions about hospitalization, COVID-19 severity and the risk of infection by SARS-CoV-2 among smokers [29].

2.4 National tobacco control legislation, strategy and coordination

Fiji started regulating tobacco products in 1964 when the US Surgeon-General's Report on smoking on health identified the links between smoking and lung cancer, which led to the Fiji Broadcasting Company to not renew its cigarette advertising contract [30].

A couple of decades after, Fiji adopted the Excise Act of 1986 [25] as well as the Tobacco Control Act of 1998 [31], which laid the foundation for regulating tobacco products.

Fiji demonstrated its commitment to tobacco control by being one of the early adopters of the WHO FCTC, signing and ratifying the treaty in October 2003. Fiji also signed the Protocol to Eliminate Illicit Trade of Tobacco Products six months after it was opened for signature in 2013 and ratified it in April 2019, six months after the Protocol entered into force [32].

Since becoming a Party, the earlier legislation have been replaced by the Tobacco Control Decree 2010 [16] and Tobacco Control Regulations 2012 [17]. The legislation and subsequent amendments contain provisions covering tobacco advertising, promotion and sponsorship; smoke-free places; graphic health warnings; licensing for manufacture, import and distribution of tobacco products; registration of tobacco product wholesalers and retailers and *suki* vendors; and ban on sale of single sticks, among others. Exemptions, where they exist, should be removed. E-cigarettes have also been included in the definition for its sale, use and advertising to be regulated in the same way as other tobacco products.

Demonstrating its commitment to tobacco control, Fiji together with other countries in the region adopted the Tobacco Free Pacific 2025 goal in 2013, pledging to cooperate and reduce adult tobacco use prevalence to less than five percent by 2025 [33]. Towards this goal, Fiji implemented the "Tobacco-Free town" initiative, where MoHMS cooperated with local authorities to conduct awareness sessions and jointly issued declarations on tobacco-free towns. Official programmes have been conducted in the touristic town of Nadi in Viti Levu and Levuka, a UNESCO World Heritage site in Ovalau, among others, to declare tobacco free zones [33].

Advancing, implementing and enforcing tobacco control measures, which contributes to multiple social, economic and environmental goals, require coordination with different sectors of the government and engagement of different stakeholders such as academia, civil society and communities. WHO FCTC Article 5.2(a) obliges Parties to establish or reinforce and finance a national multisectoral coordinating mechanism or focal points for tobacco control.

Fiji's Tobacco Control Enforcement Unit (TCEU) in the MoHMS is the focal point for tobacco control and is responsible for developing Fiji's NCD and tobacco control policies and for implementing and enforcing the tobacco control law. To develop Fiji's tobacco control strategy (2023-2028), stakeholders from key line ministries (e.g. Prime Minister's Office, Ministry of Agriculture, Waterways and Environment, Ministry of Commerce, Trade, Tourism and Transport, Fiji Revenue and Customs Service (FRCS), health inspectors, civil society organizations and academia) participated in consultations led by MoHMS. The strategy plans to specify activities other sectors will undertake to contribute to Fiji's tobacco control objectives.

Another key mandate of the TCEU is to undertake regular inspections and monitor compliance with the law regulating smoke-free places, sale to minors, and tobacco advertising, promotion and sponsorship. Fiji has a well established enforcement unit and system and other countries in the region have visited Fiji to learn from their practice.

Further, within MoHMS, TCEU works closely with the Wellness Unit. The Wellness Unit is responsible for establishing tobacco cessation support programmes in all ministerial sub-divisions; for developing effective media communication on the harms of tobacco use; and on promoting compliance with the law in the field, such as encouraging settings-based tobacco-free policies. The Wellness Unit and the Planning and Policy Development Unit of MoHMS also work with other line ministries to incorporate NCD-related policy into their sectoral plans.

MoHMS has also finalized and signed a Memorandum of Understanding (MOU) with FRCS to work together to eliminate illicit trade of tobacco products in 2019. FRCS has a structure in place to monitor tobacco products that are imported, exported, stored and moved within Fiji: there is a dedicated space at the tobacco manufacturing plant for a customs officer to occupy and check that excise tax is paid, to monitor amounts produced and to track its movement. Together with FRCS, TCEU is also a technical working member of the National Narcotics Committee, consisting of the Police, Army, Naval and other border control stakeholders [34].

Under the FCTC 2030 project, Fiji aims to strengthen tobacco control governance by fully implementing the General Obligations in WHO FCTC Article 5, namely developing a national multisectoral tobacco control strategy (WHO FCTC Article 5.1), strengthening the tobacco control legislation, and protecting tobacco control policies from tobacco industry interference (WHO FCTC Article 5.3).

2.5 Financing

In 2016, the Government of Fiji spent FJD 200,000 on tobacco control [24]. Key stakeholders from MoHMS have indicated that increasing allocation for strengthening enforcement capacity and enforcement systems would be beneficial.

In Fiji, revenue from tobacco taxes could finance components of the Fiji National Health Strategic Plan 2015-2020, the Non-Communicable Diseases Strategic Plan 2015-2019, key development priorities such as those outlined in Fiji's 5-Year and 20-Year National Development Plan [35], and the Tobacco Control Strategic Plan (currently under development). For example, tax revenue could be used to expand and strengthen both the Tobacco Control and Customs' enforcement systems and capacities and be used to cover the cost of pharmacological interventions and cessation services.

The Non-Communicable Diseases Strategic Plan 2015-2019 stipulated annual 10 percent increases in tobacco taxation; however, increases were not fully implemented [24]. In 2016, the Government of Fiji passed the Excise Budget Amendment Bill, increasing the excise duty on cigarettes and other tobacco products by 15 percent [38]. The Bill, which also raises excise duties on alcohol as well as carbonated and sugary beverages, is meant to discourage people from excessive consumption of these goods to reduce NCDs.

2.6 Tobacco industry presence and interference in policy making

Several companies—British American Tobacco (BAT), Wang Zhang Tobacco Trade (Fiji) Pte Limited, South Pacific Tobacco (Fiji) Pte Limited and Oceania Tobacco Company (OTC) Pte Limited—had set up operations in Fiji. According to the TCEU, as of 2022, BAT and OTC remain in operation while the rest have closed down.

BAT first began operations in Fiji in 1955 [37]. Production of unmanufactured tobacco leaves grew from 313 tons in the year 2000 to 495 tons in 2012 [38]. BAT has farmers in Nadi, Sigatoka and Ba [39], upgraded its factory in Nabua in 2011 [40] and opened a tobacco green leaf threshing factory in Nadi in 2020 [39].

BAT's corporate social responsibility initiatives are welcomed by the government and BAT is lauded as a partner contributing to the achievement of the SDGs and to Fiji's 5-Year and 20-Year National Development Plans [41].

Most recently, the tobacco industry is presenting itself as a solution in the context of the COVID-19 response and recovery [42] when in fact, tobacco use and NCDs are associated with worse COVID-19 outcome (see Section 3.3). There is also a concerning growing perception that tobacco is a profitable business [43], [44], [45].

According to the Global Tobacco Index 2021, Fiji has a score of 58 and is ranked 43 out of 80 countries surveyed [46]. Areas Fiji could do better in, according to the GTI 2021 report findings, include denormalizing so-called corporate social responsibility activities; disallowing benefits incentives for the tobacco industry; avoiding unnecessary interactions with the tobacco industry; avoiding conflict of interest; and adopting measures to prevent influence [46].

Box 1: Locally grown tobacco in Fiji

In Fiji, locally grown tobacco, commonly known as *suki*, *moro* or *uma*, are available across the country. While Fiji bans the sale of tobacco products for oral use, *suki* is both smoked and chewed. Unlike other manufactured tobacco products, excise taxes are not collected for *suki* which makes it a cheaper alternative to cigarettes.

While no *suki*-specific data is available, the 2011 National STEPS Survey found that 31 percent of adults aged 25-64 years currently smoked tobacco and 54 percent of these smokers smoked every day. Seventy-eight percent of the daily smokers smoked manufactured cigarettes while the rest smoked other tobacco products which may include *suki*. The survey also found that on average, daily male smokers and daily female smokers aged 25-64, smoked 2.6 and 0.6 portions of other tobacco products, which may include *suki*, respectively [1].

The Tobacco Control Act 2010 requires all *suki* vendors to register and apply for a licence. According to the TCEU, number of *suki* vendors have been on the rise for the past few years. In 2018, there were 307 *suki* vendors registered in the country. While the number of registered vendors decreased to 156 with the onset of the COVID-19 pandemic in 2020, the number increased to 387 by the end of 2021, with many of the vendors located in the Northern Division.

Given the engagement of small-scale farmers in *suki* growing, regulating *suki* is often considered as a sensitive topic.

3. Methodology

The purpose of the investment case is to quantify the current health and economic burden of tobacco use in Fiji (in the context of tobacco control measures that are currently in place), and to estimate the impact that implementing new tobacco control measures—or strengthening existing ones—would have on reducing this burden.

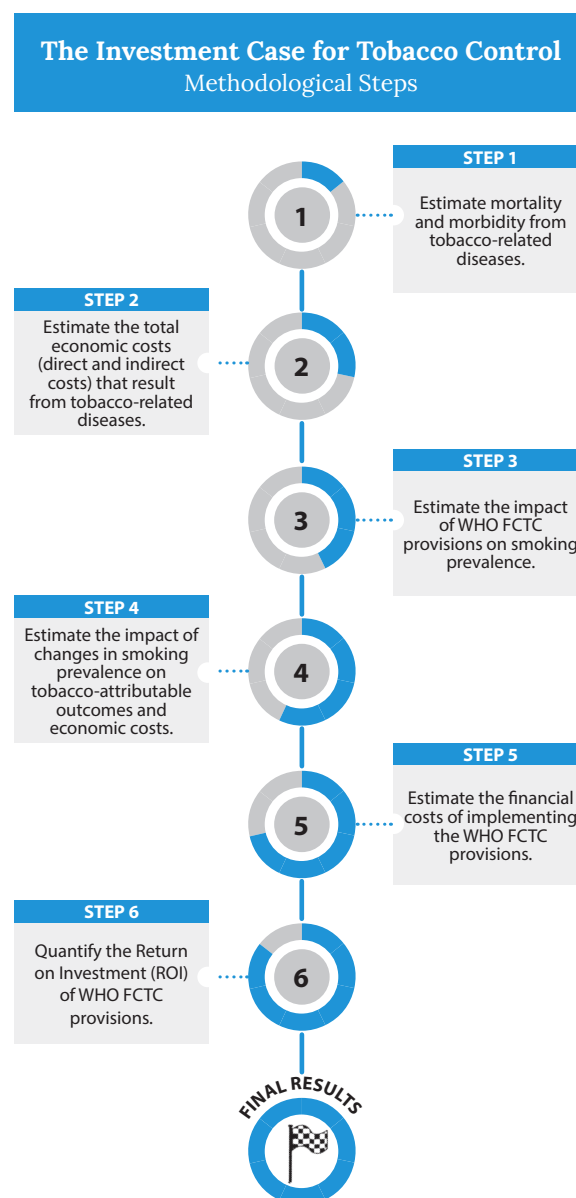
A static model was developed to conduct the investment case and to perform the methodological steps in **Figure 3**. This methodology has been used for previous national WHO FCTC investment cases under the FCTC 2030 project.

The tools and methods used to perform these steps are described in this report's Annex. Interested readers are also referred to this report's separate *Technical Appendix*⁶ for a more thorough account of the methodology.

The investment case team worked with stakeholders in Fiji 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 World Health Organization (WHO), the World Bank database, the Institute for Health Metrics and Evaluation's (IHME) Global Burden of Disease (GBD) study, and academic literature.

Within the investment case, costs and monetized benefits are reported in constant 2019 Fiji dollars (FJD) and discounted at an annual rate of 5 percent.

Fig. 3: Building the investment case



6 Available upon request.

4. Results

4.1 The burden of tobacco use: health and economic costs⁷

Tobacco use undermines economic growth. In 2019, tobacco use caused an estimated 1,271 deaths in Fiji, 71 percent of which occurred among those under 70 years. These deaths amount to 21,134 years of life lost (YLLs), which are lost productive years in which many of those individuals would have contributed to the workforce. The economic losses in 2019 due to tobacco-related mortality are estimated at FJD 229 million.

While the costs of mortality are high, the consequences of tobacco use begin long before death. As individuals suffer from tobacco-attributable diseases (e.g., cardiovascular diseases, respiratory conditions, cancers), expensive medical care is required to treat them. Spending on medical treatment for illnesses caused by smoking cost the Government FJD 8 million in 2019 and caused Fijian citizens to spend FJD 1.6 million in out-of-pocket (OOP) healthcare expenditures. Private insurance and non-profit institutions serving households spent FJD 1.8 million on treating tobacco-attributable diseases in 2019. In total, healthcare expenditures attributable to smoking amounted to FJD 11.5 million.

In addition to healthcare costs, as individuals become sick, they are more likely to miss days of work (absenteeism) or to be less productive at work (presenteeism). In 2019, the cost of excess absenteeism due to tobacco-related illness was FJD 14 million and the cost of presenteeism due to cigarette smoking was FJD 38 million.

Finally, even in their healthy years, workers who smoke are more likely to incur productivity loss than workers who do not smoke. Smokers take an estimated ten additional minutes per day in breaks than non-smoking employees [47]. If ten minutes of time is valued at the average worker's salary, the compounding impact of 85,224 employed smokers taking ten minutes per day for smoke breaks is equivalent to losing FJD 27 million in productive output annually.

In total, tobacco use cost Fiji's economy FJD 319 million⁸ in 2019, or about 2.7 percent of Fiji's 2019 GDP. **Figure 4** breaks down direct and indirect costs. **Figure 5** and **Figure 6** illustrate the annual health losses that occur due to tobacco use.

⁷ In assessing the 'current burden' of tobacco use, the economic costs of tobacco-attributable mortality include the cost of mortality due to any form of exposure to tobacco (including of 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, presenteeism, and smoking breaks. While other forms of tobacco may also cause losses in these categories, no data is available to precisely ascertain those losses.

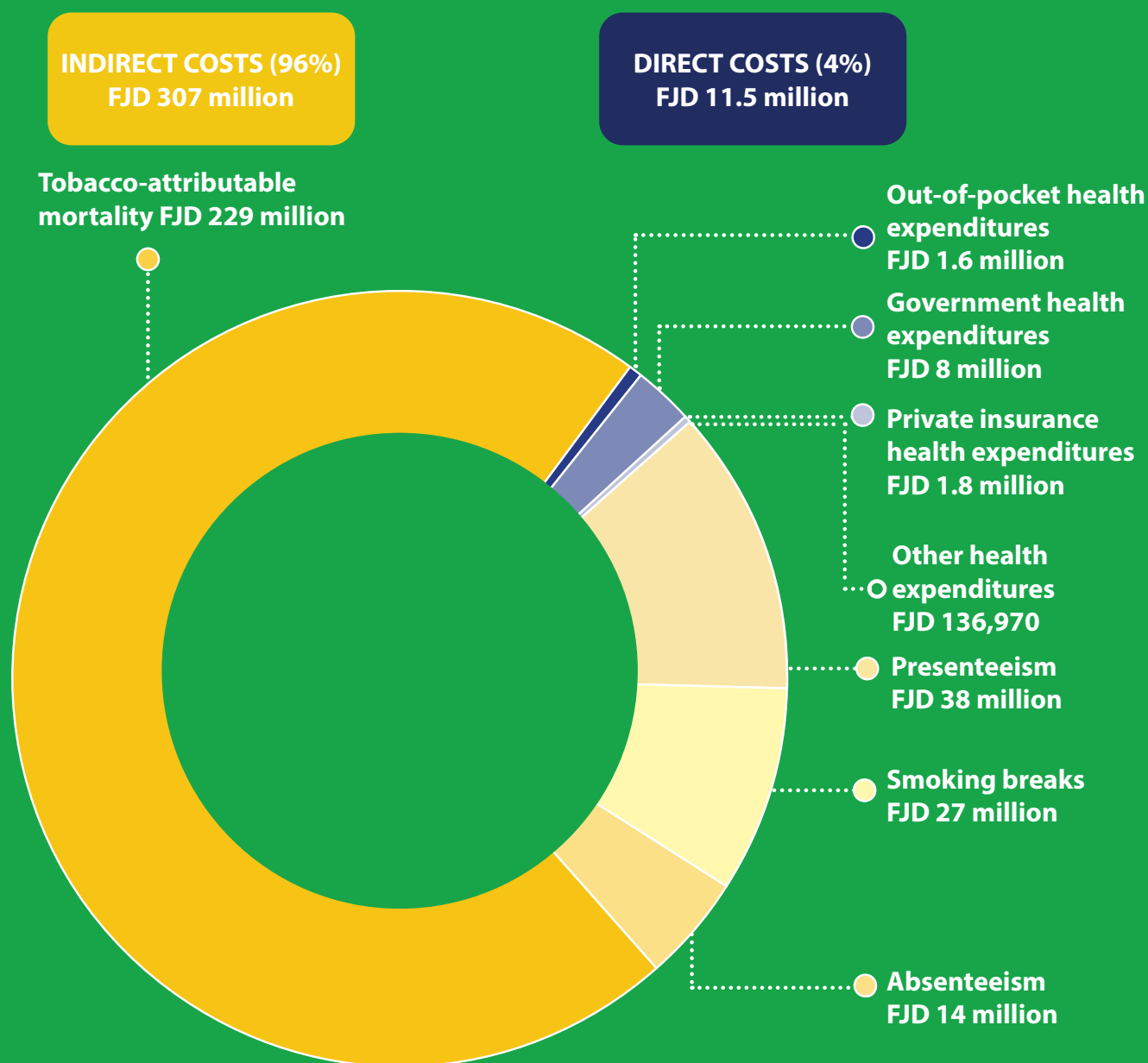
⁸ Component parts may not add to FJD 318.8 million exactly due to rounding.



Photo: © World Bank via Flickr

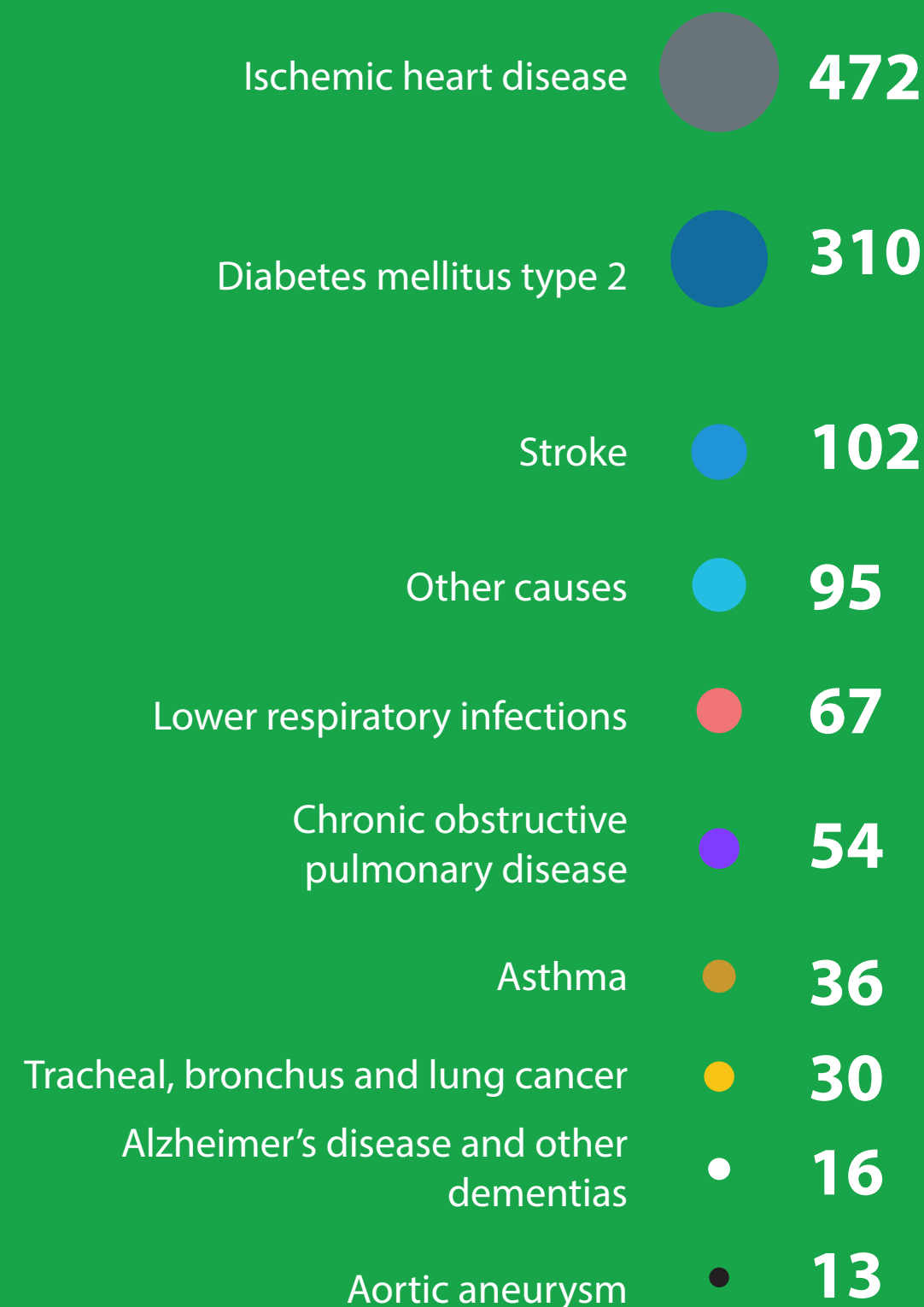
The current burden of tobacco use

Fig. 4: Breakdown of the share of direct and indirect economic costs (FJD millions) in 2019*

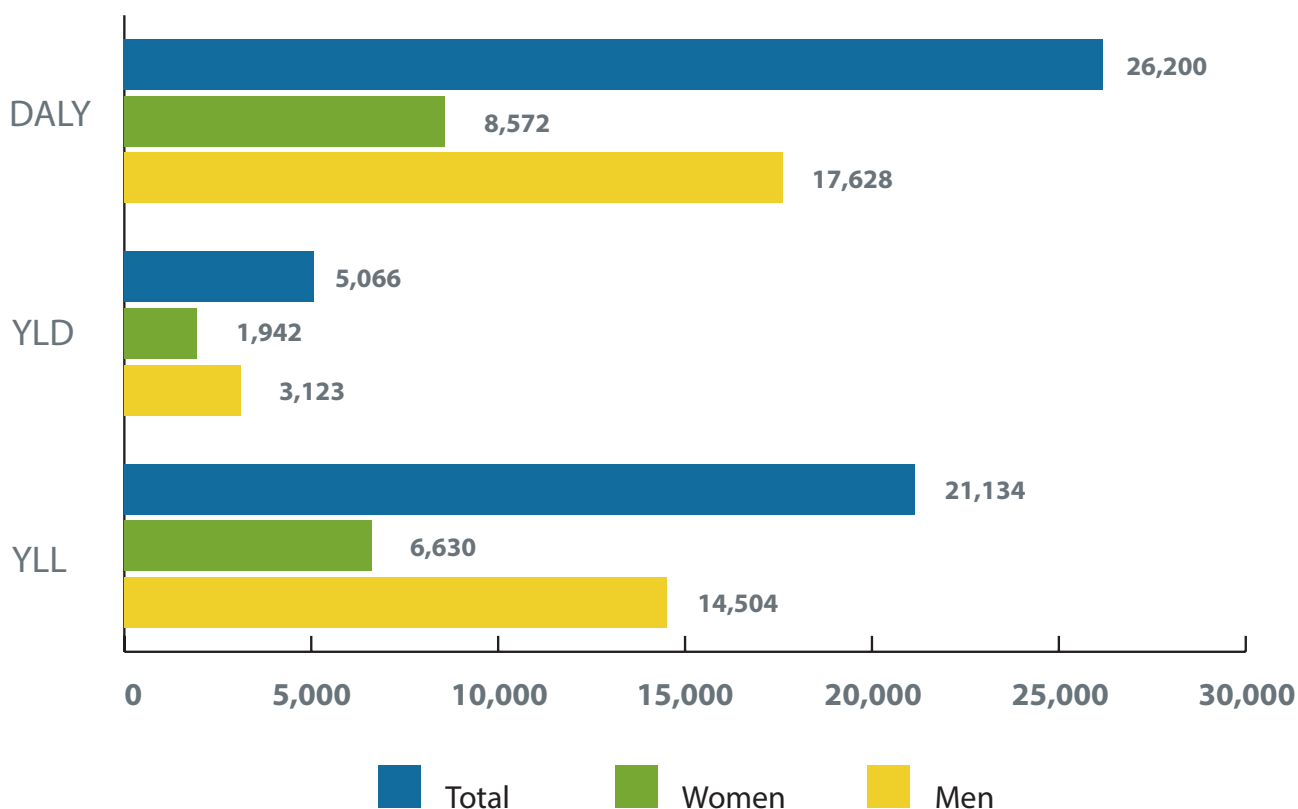


*Figures subject to rounding.

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



Source: Results are from the IHME Global Burden of Disease Results Tool. Other diseases include cervical cancer, liver cancer, peptic ulcer disease, lip and oral cavity cancer, breast cancer, colon and rectum cancer, esophageal cancer, tuberculosis, leukemia, stomach cancer, pancreatic cancer, larynx cancer, bladder cancer, prostate cancer, other pharynx cancer, atrial fibrillation and flutter, gallbladder and biliary diseases, nasopharynx cancer and kidney cancer.

Fig. 6: Tobacco-attributable DALYs, YLDs, and YLLs in Fiji, by gender , 2019⁹

4.2 Implementing policy measures that reduce the burden of tobacco use

Implementing new tobacco control measures—or strengthening existing ones—can reduce the national burden from tobacco use. Through these actions, Fiji can secure significant health and economic returns, and begin to reduce the FJD 319 million in annual direct and indirect economic losses from tobacco use.

The next two subsections present the health and economic benefits that result from five WHO FCTC policy actions to: 1) increase tobacco taxation to reduce the affordability of tobacco products (WHO FCTC Article 6); 2) Create smokefree public and work places to protect people from the harms of tobacco smoke (WHO FCTC Article 8); 3) implement plain packaging of tobacco products (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13); 4) enact and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (WHO FCTC Article 13); and 5) 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).

⁹ YLDs are “years lived in less than ideal health...[YLDs are] measured by taking the prevalence of a [disease] condition multiplied by the disability weight for that condition. Disability weights reflect the severity of different conditions.” YLLs are “calculated by subtracting the age at death from the longest possible life expectancy for a person at that age.” DALYs “equal the sum of YLLs and YLDs. One DALY equals one lost year of healthy life.” Source: IHME. (2018). Frequently asked questions. Retrieved from <<http://www.healthdata.org/gbd/faq#What%20is%20a%20DALY>>

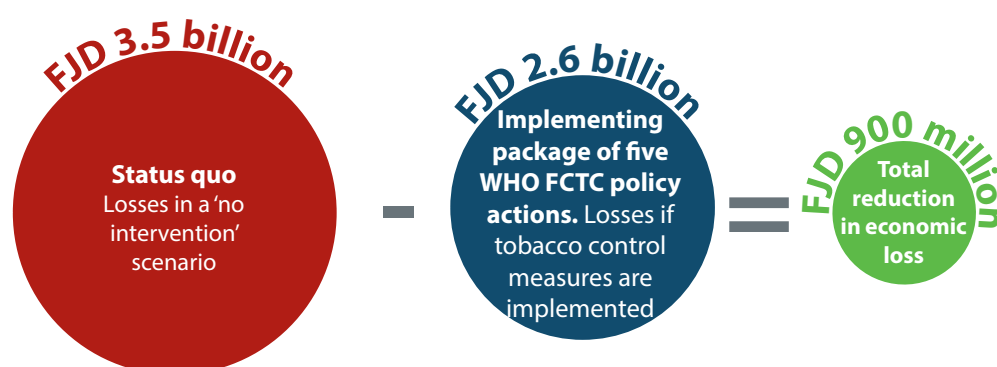
4.3 Health benefits – lives saved

The full implementation of the WHO FCTC in Fiji (inclusive of all five of the measures listed above) would lower the prevalence of tobacco use, leading to substantial health gains now and into the future. Specifically, implementing the package of five WHO FCTC policy actions that are the focus of this investment case would reduce the prevalence of cigarette smoking by 47 percent (in relative terms) over 15 years, saving 5,411 lives from 2021-2035, or 361 lives annually.

4.4 Economic benefits – costs averted

Implementing the tobacco control policy package would result in Fiji avoiding 26 percent of the economic loss that it is expected to incur from tobacco use over the next 15 years. **Figure 7** illustrates the extent to which Fiji can shrink the economic losses it is expected to incur under the status quo.

Fig. 7: Tobacco-related economic losses over 15 years, 2021-2035

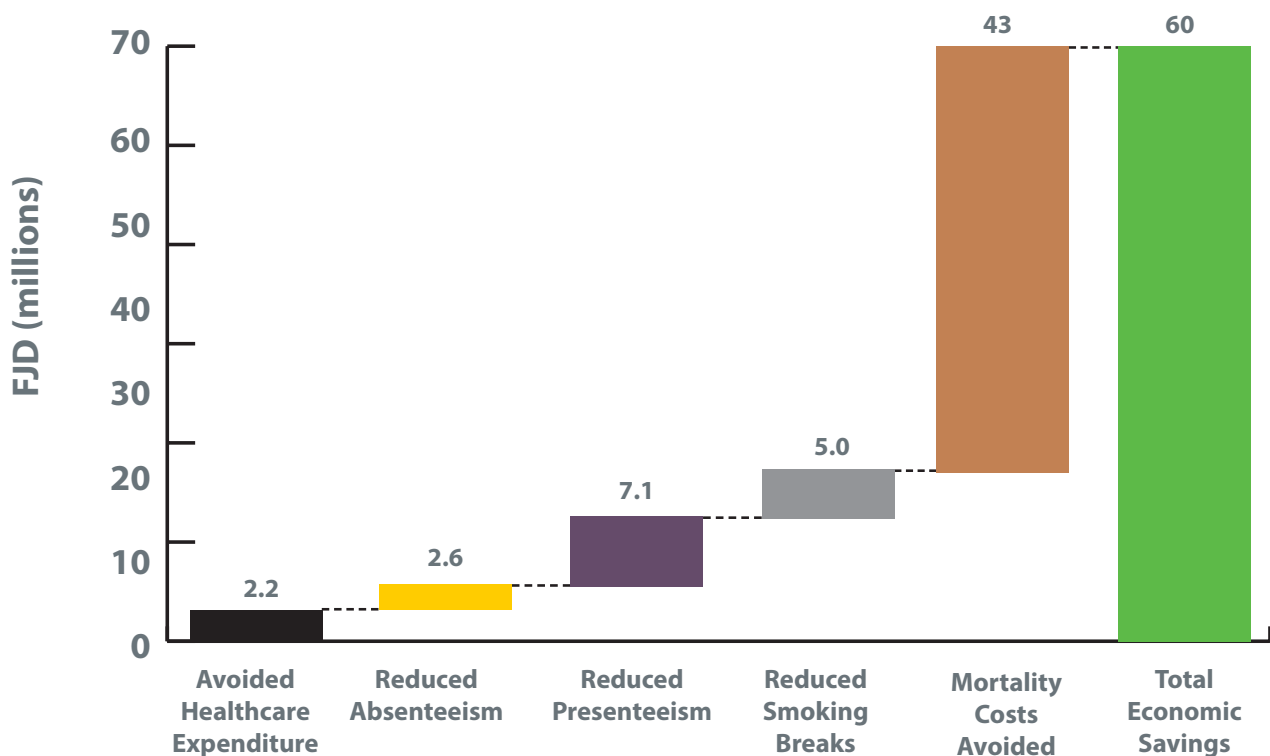


In total, over 15 years Fiji would save about FJD 900 million that would otherwise be lost if the package of five key WHO FCTC policy actions were not implemented. This is equivalent to around FJD 60 million in annual avoided losses.

With better health that would arise from implementation of the WHO FCTC, fewer individuals would need access to healthcare 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, illness or disability. Workers miss fewer days of work (absenteeism) and are less hindered by health complications while at work (presenteeism). Finally, because the prevalence of smoking declines, fewer smoke breaks are taken in the workplace.

Figure 8 breaks down the sources from which annual avoided costs accrue from implementation of the package of five WHO FCTC policy actions. The largest annual avoided costs result from averted tobacco-attributable mortality (FJD 43 million). The next highest source is reduced presenteeism (FJD 7.1 million), followed by reduced numbers of smoking breaks (FJD 5.0 million), reduced absenteeism (FJD 2.6 million), and avoided healthcare expenditures (FJD 2.2 million).

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

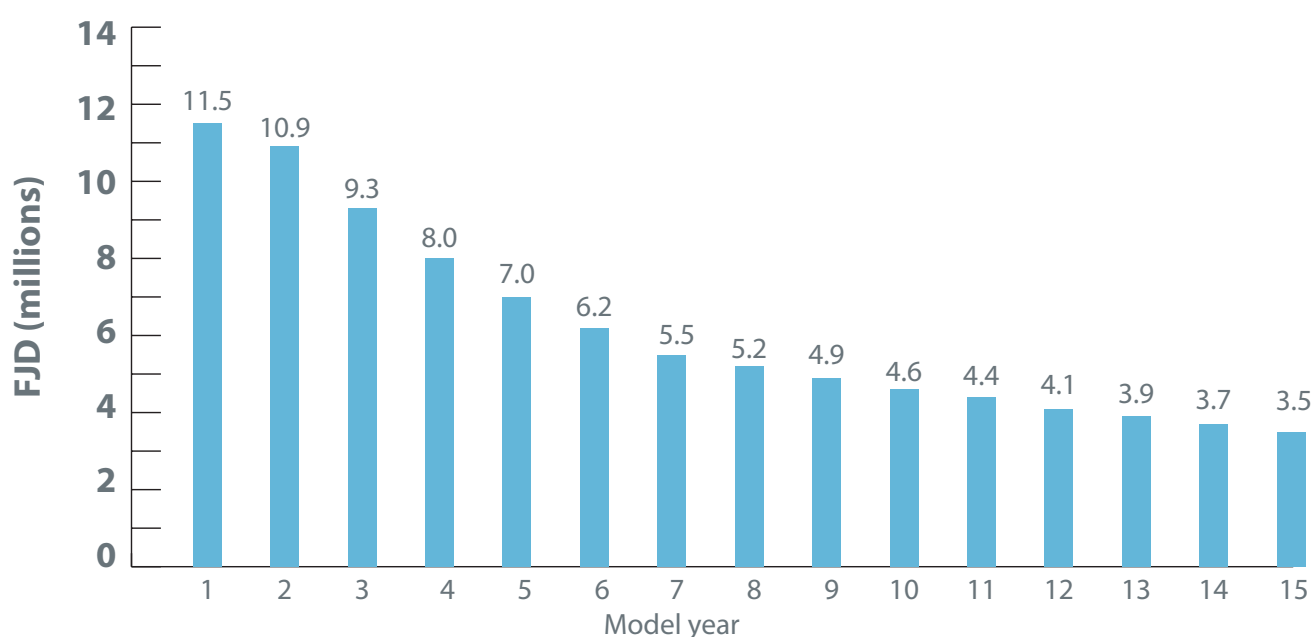


*Figures subject to rounding.

Implementing the package of five WHO FCTC policy actions examined in this investment case will reduce medical expenditures, both for citizens and the government. Presently, total private and public annual healthcare expenditures in Fiji is about FJD 395.7 million [48], 2.9 percent of which (~FJD 11.5 million) is directly related to treating disease and illness due to tobacco use [3].

Figure 9 shows the level of smoking-attributable healthcare expenditures and the reductions year-on-year. While smoking-attributable healthcare expenditures currently cost FJD 11.5 million, this will reduce each year and cost FJD 3.5 million after 15 years.

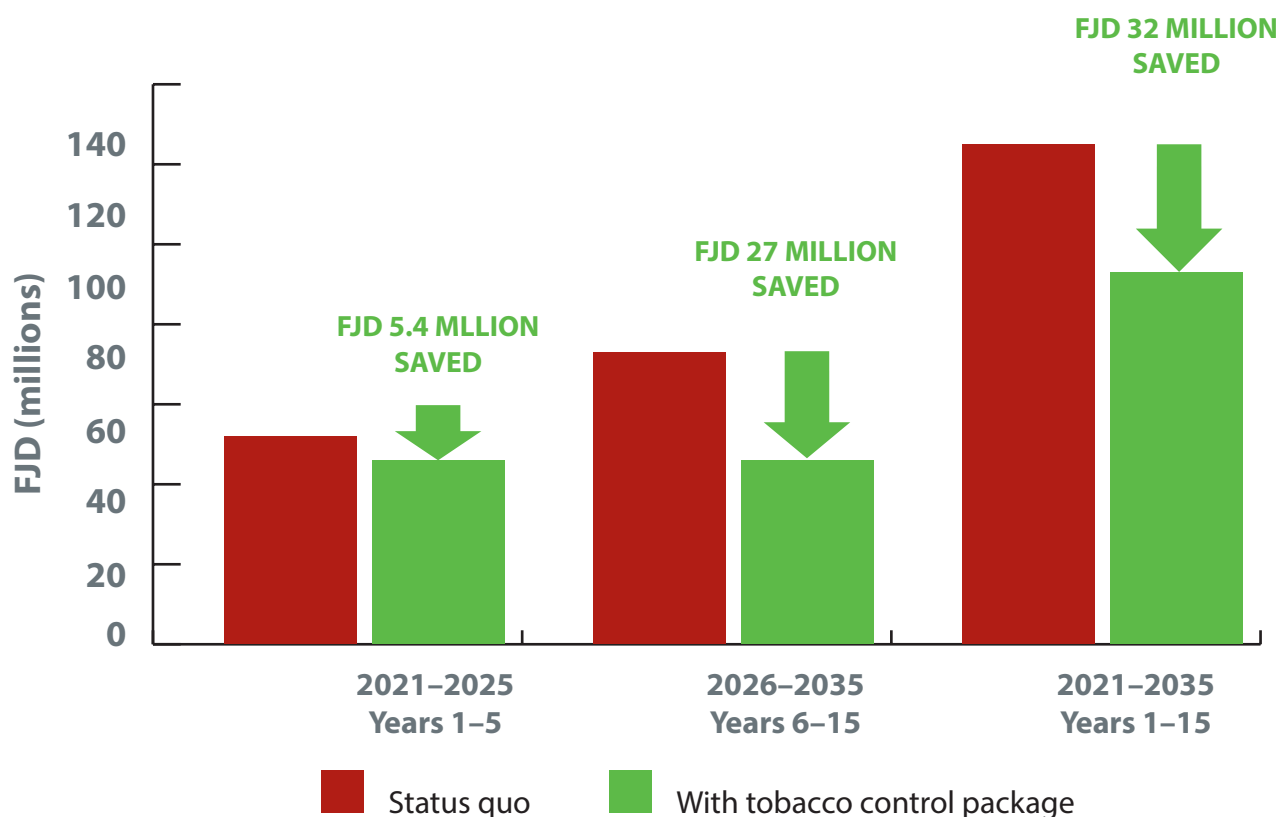
Fig. 9: Smoking-attributable healthcare expenditures over a 15-year period, 2021-2035



Over the 15-year time horizon of the analysis, the package of interventions averts FJD 32 million in healthcare expenditures, or FJD 2.2 million annually (see **Figure 10**). Of this, 69 percent of savings accrue to the Government and 14 percent accrue to individual citizens who would have had to make out-of-pocket payments for healthcare. The remainder of savings goes to private insurance and other sources of healthcare expenditures. Thus, from reduced healthcare costs alone, the Government of Fiji stands to save about FJD 22 million over 15 years.

Simultaneously, the Government would successfully reduce the health expenditure burden that tobacco imposes on Fiji's citizens, supporting efforts to reduce economic hardship on families in line with universal health coverage. Rather than spending on tobacco products or healthcare treatment for tobacco-related diseases, these families would be able to invest more in nutrition, education, and other productive inputs to secure a better future.

Fig. 10: Private and public healthcare costs (and savings) over the 15-year time horizon, 2021-2035*



*Figures subject to rounding.

4.5 The return on investment (ROI)

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 policy actions by the costs of the investments. For the Fiji investment case, the ROI for each intervention was evaluated in the short-term (period of five years), to align with planning and political cycles, and in the medium-term (period of 15 years) to align with the SDGs and beyond. The ROI shows the return on investment for each intervention, and for the full package of WHO FCTC policy actions. Total benefits (avoided economic losses due to tobacco-attributable mortality, healthcare 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. All of the 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 1.5 to 71 times its investment. The ROIs for each intervention continue to grow over time, reflective of the increasing effectiveness of policy measures as they move from planning and development stages, to full implementation.

Table 2: Return on investment, by tobacco control policy/intervention (FJD millions) over five (2021-2025) and 15 (2021-2035) years¹⁰

Return on investment, by tobacco control policy	First 5 years (2021–2025)			All 15 years (2021–2035)		
	Total Costs (millions)	Total Benefits (millions)	ROI	Total Costs (millions)	Total Benefits (millions)	ROI
Tobacco control package* (all policies/interventions implemented simultaneously)	7.1	153	22	15.2	900	59
Bans on Advertising, Promotion, and Sponsorship (WHO FCTC Article 13)	0.7	52	71	1.3	357	273
Raise Cigarette Taxes (WHO FCTC Article 6)	1.2	58	49	2.3	376	163
Protect People from Tobacco Smoke (WHO FCTC Article 8)	1.3	48	36	2.2	328	147
Plain Packaging (WHO FCTC Guidelines for implementation of Articles 11 and 13)	0.7	13	18	1.3	91	72
Cessation: Brief Advice to Quit (WHO FCTC Article 14)	1.7	2.5	2	5.4	40	7

* 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 PR_i and PR_j, (1-PR_i) x (1-PR_j) [is] applied to the current smoking prevalence [49]. 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.

Over the 15-year period, enacting and enforcing a comprehensive ban on all forms of tobacco advertising, promotion and sponsorship is expected to have the highest return on investment (273:1). Raising cigarette taxes is expected to have the next highest return on investment (163:1), followed by creating smokefree public and work places (147:1), implementing plain packaging of tobacco products (72:1), and promoting cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use (7:1).

¹⁰ Rounded to the nearest whole number

5. Examining additional impacts: Government revenue and the SDGs

The investment case examines how increasing taxes on tobacco would impact government revenue and the contributions of stronger WHO FCTC implementation towards Fiji's fulfillment of Target 3.4 of the Sustainable Development Goals.

5.1 Tax analysis: the impact of increasing cigarette taxes on government revenue

In line with the Addis Ababa Action Agenda on Financing for Development [50], tobacco price and tax measures "represent a revenue stream for financing for development". This analysis examines a scenario in which Fiji chooses to increase cigarette taxes towards levels considered in the WHO Report on the Global Tobacco Epidemic 2019 as the highest level of achievement [24]. The modelling in this investment case only considers tax on cigarettes and uses a hypothetical scenario in which the VAT tax rate stays the same while the specific excise tax increases (in real terms) from FJD 2.4 now to FJD 5.6 in 2025.

Evidence from countries in the Asia-Pacific region shows that for countries with income status similar to Fiji, on average, a 10 percent increase in the price of cigarettes is expected to result in a 6.1 percent reduction in consumption [51]. Even accounting for the rise in demand that results from income increases,¹¹ under the described tax increase pattern and demand elasticities, licit cigarette consumption in Fiji would drop from the present amount of about 24 million packs annually¹² to 20 million in 2025.

Even though there are drops in consumption, revenue gains will still occur. Although reducing the affordability of tobacco products leads people to quit smoking or reduce consumption, many people will still continue to smoke, largely because of the addictive nature of tobacco, paying higher taxes to the government each time they purchase cigarettes. **Figure 11** compares, over a period of five years, annual government cigarette tax revenue (undiscounted) in a hypothetical scenario where Fiji enacts strong specific excise taxes to a scenario in which tobacco prices remain static over time.¹³ The figure depicts a growing gap in annual tax revenue collection between the two scenarios. It is assumed that no change occurs during the first two years, allowing time for debate

11 Projected income growth over the period 2021–2025 is estimated using real GDP growth projections from the International Monetary Fund as a proxy for income – 3.0 percent [52]. Income price elasticity of demand – 0.33 [51]; income prevalence elasticity of demand – 0.16 (assumed half of income price elasticity).

12 Estimates of the total number of cigarette packs sold were obtained by extrapolating from tax revenue estimates provided in the WHO Report on the Global Tobacco Epidemic 2019, Fiji's country profile (see Appendix).

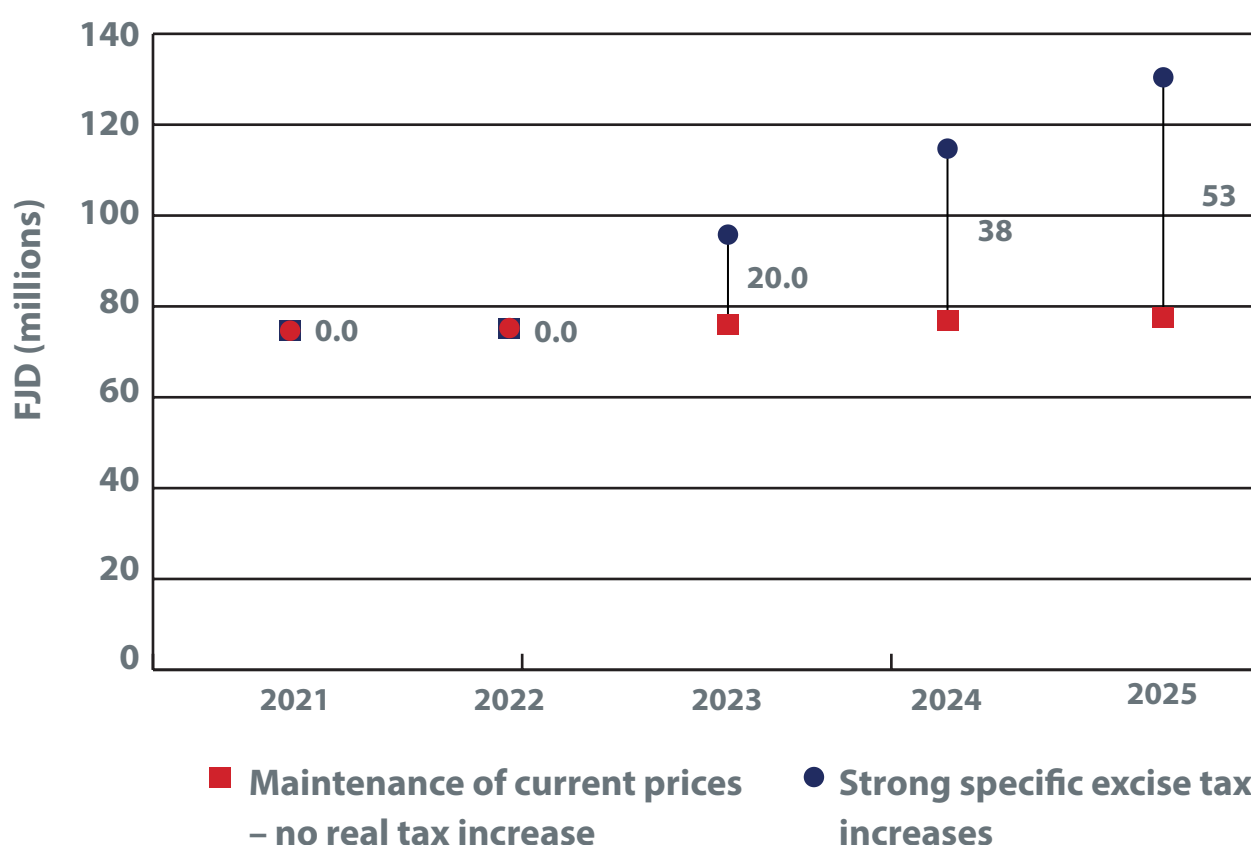
13 A simple analysis was used in the modelling, meaning there was no analysis of the multiple tiers of the cigarette tax in Fiji (see methodology annex for more details).

and legislation of the new tax increase. In 2023, large cigarette tax increases in an ‘intervention scenario’ yield an additional FJD 20 million in revenue, and this grows to FJD 53 million in 2025.

On average, enacting strong cigarette tax increases could generate an additional FJD 36.8 million annually from 2023 to 2025, equivalent to about 13.4 percent of total government healthcare expenditures in 2018 [48]. Cigarette taxes can play a meaningful financing role as the government seeks to advance universal health coverage, COVID-19 response and recovery, and other priorities. Previous experience with reforms that increased taxes on other products had a positive impact on government revenue [53].

Moreover, focusing on actions like increased tobacco taxation are shown to benefit the poorest the most, providing opportunity for the government to alleviate tobacco-related health problems and resulting medical costs for the poorest and create a more equitable society.

Fig. 11: Additional annual tax revenue (undiscounted) in comparison to the baseline scenario, 2021-2025



5.2 The Sustainable Development Goals and the WHO FCTC

Implementing the package of five WHO FCTC policy actions will support Fiji to meet SDG Target 3.a to strengthen implementation of the WHO FCTC. Moreover, acting now will contribute to Fiji's efforts to meet SDG Target 3.4 to reduce by one-third premature mortality from NCDs by 2030.

In Fiji in 2019, over 3,500 premature deaths between the ages of 30 and 70 were caused by the four main NCDs (cardiovascular disease, diabetes, cancer, and chronic respiratory disease) [2]. Almost one-fifth (17 percent) of these premature deaths occurred due to tobacco use [2]. Implementing the package of five WHO FCTC policy action would reduce tobacco use prevalence—a key risk factor driving NCD incidence—preventing 1,422 premature deaths from the four main NCDs over the next 10 years (2021 to 2030). Preventing these deaths contributes about 20 percent of the needed reduction in premature mortality for Fiji 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 [54]. For example, stronger tobacco control will contribute to the reduction of poverty and inequalities (SDGs 1 and 10, respectively) and economic growth (SDG 8).



Achieving SDG Target 3.4 by 2030

By 2030 the WHO FCTC measures would...



Lower the prevalence of tobacco use by over 45 percent from present day levels.

Reduce economic costs due to tobacco use by FJD 556 million, including saving FJD 20 million in healthcare expenditures.

Lead to savings (FJD 556 million) that significantly outweigh the costs (FJD 11.7 million) of implementation and enforcement, with an overall return on investment of 47:1.

6. Conclusion and recommendations

Each year, tobacco use costs Fiji FJD 319 million in economic losses (equivalent to 2.7 percent of 2019 GDP) 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 Fiji. Enacting the five key WHO FCTC policy actions would save 361 lives each year and reduce the incidence of disease, leading to savings from decreased medical costs and averted productivity losses. In economic terms, these benefits are substantial, adding up to FJD 900 million over 15 years. Further, the economic benefits of strengthening tobacco control in Fiji greatly outweigh costs of implementation (FJD 900 million in benefits versus FJD 15 million in costs, at 59:1 return on investment).¹⁴

By investing now in the package of five WHO FCTC policy actions modeled in this investment case, Fiji would not only reduce tobacco consumption, improve health, reduce government health expenditures, and grow the economy, it would also reduce hardships among Fijians, particularly among low-income populations. Many countries reinvest savings from healthcare expenditures and revenue from increased tobacco taxes into national development priorities such as universal health coverage and other social protection measures, as well as COVID-19 response and recovery efforts.

14 Figures subject to rounding.



Photo: © World Bank via Flickr

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



Increase tax rates and harmonize tax rates on all tobacco products.

The investment case demonstrated the potential power of increasing cigarette taxation in Fiji to 75 percent of the retail price (considered in the WHO Report on the Global Tobacco Epidemic 2019 as the highest level of achievement) [24]. Specifically, even in the short-term, by year 5, Fiji can expect a 49:1 return on investment from the modeled cigarette tax increase, with this already substantial return growing to 163:1 by year 15 (see **Table 2**). In addition to saving lives and avoiding substantial healthcare costs and productivity losses, increasing cigarette taxes to 75 percent of retail price could generate an additional FJD 36.7 million in annual Government revenue from 2023 to 2025, equivalent to about 13.4 percent of total government healthcare expenditures in 2018. This would enable Fiji to strengthen universal health coverage, other social protection measures as well as broader investments in health and development, particularly in the context of COVID-19 response and recovery.

The investment case only modeled the potential gains from increasing taxes on cigarettes, not all tobacco products, meaning that if Fiji were to take an even more comprehensive approach to taxation, there would be even more health and economic benefits. It is recommended that Fiji take immediate steps to comprehensively strengthen taxes on all tobacco products, whether it contains tobacco grown outside Fiji or locally, and including *suki* (native tobacco, grown and air cured by farmers), smokeless tobacco as well as newer electronic nicotine delivery systems.

This would require Fiji to reconsider the pros and cons of its currently lower excise tax on products containing locally-grown tobacco. While this preferential tax treatment is intended to incentivize local production and create jobs for Fijians, it also makes a large segment of tobacco in Fiji more affordable, undermining the health and economic benefits that could be gained from implementing the package of WHO FCTC policy actions modeled in this investment case.

Research show that alternative livelihoods are more beneficial for farmers' livelihoods and health as well as the environment and overall economy. Studies show that tobacco cultivation causes widespread environmental damage including deforestation, soil and water degradation; traps farmers in debt; uses child labour; imposes health risks on farmers such as green tobacco sickness and respiratory diseases; and can contribute to increased food insecurity [13], [55], [56], [57], [58], [59], [60].

Further, the Excise (Budget Amendment) Bill 2016 aimed to encourage the establishment of 'downtown duty free shops' and indicated that export warehouses may also be called duty free shops or downtown duty free shops [36]. Duty free tobacco undermines the effect of excise duties, is counterproductive to health goals, erodes tax revenues and can be an origin of illicit trade [61].

It is therefore recommended that Fiji take a holistic approach to increased tobacco taxation, including restricting sales of duty-free tobacco, conveying the multidimensional benefits of tobacco taxation to all stakeholders, supporting tobacco farmers to engage in alternative economic activities or crops, and ensuring a robust system to eliminate illicit trade of tobacco products in line with the Protocol. Guidance and support is available on governance frameworks, tax structures, monitoring, administration and complementary measures [62].



Strengthen national multisectoral tobacco control planning and coordination to drive a whole-of-government and whole-of-society approach.

The investment case demonstrates that tobacco is not just a health issue for Fiji but a sustainable development issue, with implications for a range of stakeholders including but not limited to the Ministries overseeing economy, commerce, agriculture, environment, education, employment, youth and sports, local government, poverty alleviation; medical associations; civil society; businesses; academia; and youth groups.

It is recommended that Fiji use the investment case findings as a catalyst to strengthen coordination and collaboration across sectors, and make the case for policy coherence. This is necessary to close gaps in legislation and implementation and accelerate tobacco control and sustainable development [63]. It is recommended for Fiji to formalize a multisectoral national coordinating mechanism (NCM) on tobacco control and WHO FCTC implementation with dedicated human and financial resources.

Fiji would benefit from fully implementing Article 5 of the WHO FCTC. A coordinated response to the tobacco epidemic through adopting a national multisectoral tobacco control strategy, developed and implemented with the engagement of all relevant stakeholders, will see benefits across all sectors. A multisectoral strategy with clear goals, targets, actions, budget and a monitoring plan can help mobilize resources, ensure clarity of roles and responsibilities and facilitate accountability [64]. The strategy could include and prioritize the five WHO FCTC policy actions modeled in this investment case, as well as consider the recommendations put forth during the WHO FCTC needs assessment exercise for Fiji conducted in 2011, which although dated, are still relevant [65].

More broadly, Fiji could pursue opportunities to integrate tobacco control and WHO FCTC implementation into national development plans and financing frameworks for the SDGs and in the context of COVID-19 response and recovery. Whilst the UN Pacific Strategy that runs through 2022 does mention tobacco under Outcome 4 (Equitable Basic Services), Fiji's current 5-Year and 20-Year National Development Plan does not mention tobacco or the WHO FCTC [35]. The next national development plan could capture the social, economic and environmental development dimensions of tobacco [54], including the economic losses outlined in this investment case, to strengthen WHO FCTC implementation as national priority.



Commit to fully implement the WHO FCTC and invest in strengthening the WHO FCTC policy actions modeled in this investment case.

As a Party to the WHO FCTC, Fiji is encouraged to fully implement 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 guidelines for implementation and in this investment case.

The investment case has shown the health and economic benefits of strengthening implementation of the modeled WHO FCTC measures. Thus in addition to increasing tobacco taxes, Fiji is recommended to take immediate action to implement the following:

- Make all public and workplaces smokefree by removing exemptions and ending the use of indoor designated smoking areas, in line with WHO FCTC Article 8 and its guidelines for implementation;
- Consider implementing plain packaging to reduce the attractiveness of tobacco products and make health warnings more prominent, in line with WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13;
- Comprehensively ban all forms of tobacco advertising, promotion and sponsorship by removing exemptions, closing loopholes and aligning fully with the WHO FCTC and the guidelines for implementation of Article 13;
- Promote cessation of tobacco use and treatment for tobacco dependence by training health professionals to provide brief advice to quit tobacco use, especially in primary care settings. In addition, other evidence-based support for tobacco users should be considered including the establishment of a national toll-free quit line and/or internet based quit support; and making pharmacotherapies available to support successful quitting, free of cost if possible, in line with WHO FCTC Article 14 and its guidelines for implementation.

Finally, although not modeled in this investment case, Fiji is encouraged to continue efforts to implement Article 12 of the WHO FCTC and measures proposed in the implementation guidelines to raise public awareness of matters related to tobacco control. Collaboration with the Ministries of Local Government, Education, Heritage and Arts, Communication, Youth and Sport, could support denormalization of tobacco, discourage youth from initiating tobacco use and support shifts in behaviors and attitudes.



Enact specific measures to protect tobacco control policies from tobacco industry interference.

The tobacco industry is a barrier to the successful implementation of the WHO FCTC. The Tobacco Industry Interference Index Assessment [46] undertaken by Fiji in 2021 shows there are areas for strengthening to meet obligations under WHO FCTC Article 5.3. For example, unnecessary interactions between the tobacco industry and government sectors, allowing corporate social responsibility initiatives, incentives or benefits among others, undermine Fiji's implementation of the WHO FCTC and consequently, the Fijians' right to health.

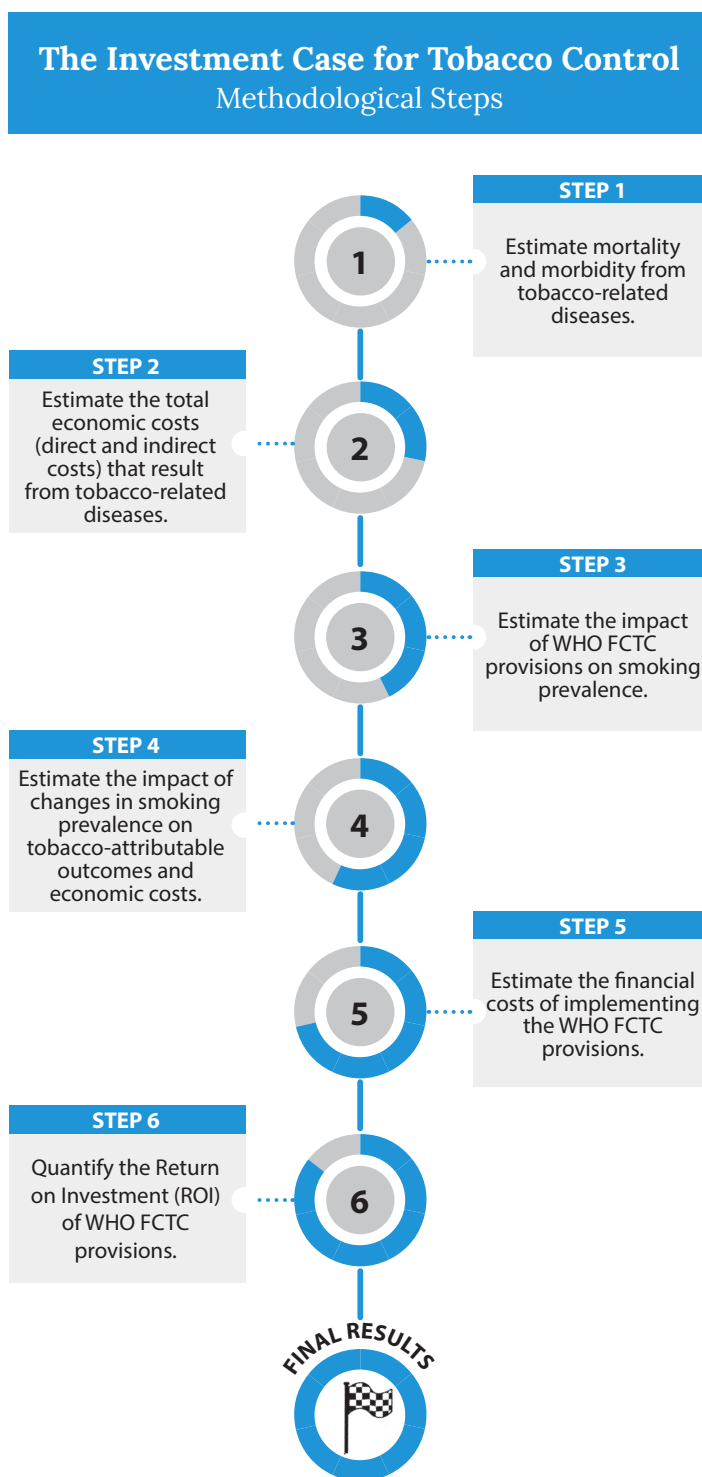
To enable MoHMS to overcome tobacco industry interference and influence in policymaking and in the legislative processes, Fiji is recommended to adopt a code of conduct for all civil servants, beyond MoHMS, in line with WHO FCTC Article 5.3 and its guidelines for implementation. Fiji needs to establish clear guidelines to avoid conflict of interest for government officials and employees; to limit interactions with the tobacco industry and ensuring transparency of necessary ones; to regulate "socially responsible" activities of the industry; and prohibit preferential treatment to the tobacco industry. This, together with sectoral policies and a tobacco control legislative framework that is fully aligned with the WHO FCTC, will enable Fiji to make good progress towards its health and sustainable development goals.

7. Methodology annex

7.1 Overview

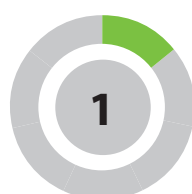
The economic analysis consists of two components: 1) assessing the current burden of tobacco use and 2) examining the extent to which WHO FCTC provisions can reduce the burden. The first two methodological steps depicted in **Figure A1** are employed to assess the current burden of tobacco use, while 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



8.2 COMPONENT ONE: CURRENT BURDEN

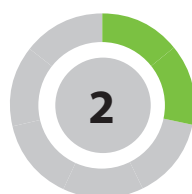
The current burden model component provides a snapshot of the current health and economic burden of tobacco use in Fiji.



STEP 1

Estimate mortality and morbidity from tobacco-related diseases.

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) [66], [67]. 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.



STEP 2

Estimate the total economic costs (direct and indirect costs) that result from tobacco-attributable diseases.

Next, the model estimates the total economic costs of disease and death caused by tobacco use, including both direct and indirect costs.¹⁵ *Direct* refers to tobacco-attributable healthcare expenditures. *Indirect* refers to the value of lives lost due to tobacco-attributable mortality, and workplace productivity losses: absenteeism, presenteeism, and excess breaks due to smoking.

Direct costs — Direct costs include tobacco-attributable public (government-paid), private (insurance, individual out-of-pocket), and other healthcare expenditures. The proportion of healthcare costs attributable to smoking was obtained using the formula for estimating smoking attributable fraction (SAF) of healthcare expenditures from Goodchild et al. (2018) [3]. Among nearby countries, where average prevalence is 22.8 percent compared to Fiji's 21.8 percent, Goodchild and colleagues estimate SAFs ranging from 0.1 percent in Papua New Guinea to 4.9 percent in Philippines. The investment case analysis uses an average of these countries' SAFs (2.9 percent) as an estimate approximating the SAF in Fiji.

¹⁵ In assessing the current burden of tobacco use, the economic costs of tobacco-attributable mortality include the cost of deaths due to any form of exposure to tobacco (including of 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, presenteeism, and smoking breaks. While other forms of tobacco may also cause losses in these categories, no data is available to pinpoint those losses.

To calculate the share of smoking-attributable healthcare expenditures borne by public, non-profit, and private entities, it was assumed that each entity incurred smoking-attributable healthcare costs in equal proportion to its contribution to total health expenditure. Healthcare expenditures were obtained from the National Health Accounts provided by country stakeholders from the WHO Global Health Expenditure Database [48].

Indirect costs — Indirect costs represent the monetized value of lost time, productive capacity, or quality of life as a result of tobacco-related diseases. Indirect costs accrue when tobacco use causes **mortality**, eliminating the unique economic and social contributions that an individual would have provided in their remaining years of life. In addition, tobacco use results in productivity losses. Compared to non-tobacco users, individuals who use tobacco are more likely to miss days of work (**absenteeism**); to be less productive at work due tobacco-related illnesses (**presenteeism**); and to take additional breaks during working hours in order to smoke.

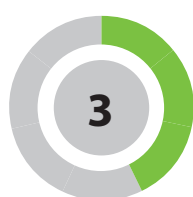
- *The economic cost of tobacco-attributable mortality due to tobacco use* — Tobacco-attributable mortality is valued using the human capital approach, which places an economic value on each year of life lost. Using GBD data on the age at which tobacco-attributable deaths occur, the model calculates the total number of years of life lost due to tobacco, across the population. Each year of life is valued at 1.4 times GDP per capita, following the “full income approach” employed by Jamison et al (2013) [68].
- *Productivity costs* — Productivity costs consist of costs due to absenteeism, presenteeism, and excess work breaks due to smoking. The model incorporates estimates from academic literature on the number of extra working days missed due to active smoking (2.9 days per year) [69]. Presenteeism losses are obtained similarly, under research that shows that smokers in China, the US, and five European countries experience about 22 percent more impairment at work because of health problems compared to never-smokers [70]. Lost productivity due to smoking breaks is valued under the conservative assumption that working smokers take ten minutes of extra breaks per day [71].

8.3 COMPONENT TWO: POLICY/INTERVENTION SCENARIOS

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

The investment case employs a static model to estimate the total impact of the tobacco control measures, meaning that aside from smoking prevalence, variables do not change throughout the time horizon of the analysis. 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 [72], [73].

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



STEP 3

Estimate the impact of WHO FCTC demand-reduction measures on smoking prevalence.

The selection of priority WHO FCTC measures modeled within the investment case align with the [Global Strategy to Accelerate Tobacco Control](#) 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, inter alia, the implementation of price and tax measures (WHO FCTC Article 6) and time-bound measures of the Convention. The time-bound measures are for creating smokefree public and work places (WHO FCTC Article 8), prominent health warnings on tobacco packaging (WHO FCTC Article 11) and plain packaging (WHO FCTC Guidelines for implementation of Article 11 and WHO FCTC Guidelines for implementation of Article 13), and comprehensive bans on tobacco advertising, promotion and sponsorship (WHO FCTC Article 13). The impacts of implementing the WHO FCTC provisions are obtained from the literature. The impact of enforcing smoke-free air laws, implementing plain packaging and intensifying advertising bans are derived from Levy et al. (2018) [49] and Chipty (2016) [74], as adapted within the Tobacco Use Brief of Appendix 3 of the WHO Global NCD Action Plan 2013-2020 [75], and adjusted based on assessments of Fiji's baseline rates of implementation.

The impact of basic evidence-based tobacco cessation in the form of brief advice to quit tobacco use by healthcare professionals in primary care settings is from Levy et al. 2010 [76].

Except for taxes—the impact of which is dependent on the timing of increases in tax rates (described below)—and the brief cessation 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 measures is phased in over a five-year period. The phase-in period follows WHO assumptions [77] 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 analyze 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	-0.61	[51]
Prevalence elasticity of demand	-0.31	Assumption – half of price elasticity
Income price elasticity of demand	0.33	[51]
Income prevalence elasticity of demand	0.16	Assumption – half of income price elasticity
Number of licit cigarette packs sold	24.4 million	[24]*
Projected real income growth rate**	3.0%	[52]

* No estimates of the number of cigarette packs sold were provided. To estimate total packs sold in the country, the investment case used tax revenue data from Fiji's country profile which shows that FJD 58.5 million in specific excise taxes on cigarettes were collected in 2017. To roughly estimate packs sold, analysts divided 58.5 million by the specific excise rate per pack (FJD 2.4) of the most sold brand of cigarettes (sold in packs of 10) to estimate 24.4 million packs of cigarettes sold. As no more recent data was available, this estimate was used as the starting point of the analysis.

** Projected real income growth is used as a proxy for wage growth. The International Monetary Fund projects [52] real GDP growth at an average of 3.6 percent annually through 2025.

The investment case analysis examines a tax increase scenario in which Fiji chooses to enact strong tax increases. In the hypothetical scenario, the VAT tax rate stays the same, while the specific excise tax rises (in real terms) from FJD 2.4 to FJD 5.6 in 2025.¹⁶ In the scenario, price net of taxes remains static (full pass through of the tax increase). **Table A2** breaks down cigarette pack price components from 2021 to 2025 under the described specific excise tax increases. Additional specific excise taxes triggering real price increases of an average of 8 percent annually are modeled from 2026 to 2035, bringing the total tax to 75 percent at the end of the analysis.

Table A2: Projected cigarette pack price in the tax increase scenario (FJD)

	2021	2022	2023	2024	2025
Price net of taxes	4.85	4.85	4.85	4.85	4.85
Specific excise	2.40	2.40	3.48	4.56	5.59
Value added tax	0.65	0.65	0.75	0.85	0.94
Final Consumer Price	7.90	7.90	9.08	10.26	11.38

The impact of these 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 Joossens and colleagues (2009) [78], who use a log-log function to ensure large price increases do not result in implausible reductions in consumption or prevalence. 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:

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

Where:

SP = smoking prevalence (# of smokers) in year i

ϵ_p = prevalence elasticity

Op_np = the ratio of the old price of a pack of cigarettes to the new price after tax increases

ϵ_i = income elasticity

GDP = Gross domestic product in year

¹⁶ In the scenario, per pack net of tax price is projected to increase by about 6.4 percent year-over-year, in line with increases observed over the period from 2015 to 2019.

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 of the tax increases. This assumption reflects a “middle ground” approach, but, in reality, the tobacco industry may increase or decrease prices in reaction to the price increase. Third, we did not obtain Fiji-specific estimates of price and income elasticities.

Brief advice to quit tobacco. We calculate the effect of scaling up the provision of brief advice, we recalculate PQR to estimate the number of smokers who quit as a result of the intervention. 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) [76]. 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) [76]

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

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.¹⁷ 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 [76]. 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 is shown in **Table A3**.

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¹⁷ Analysts pulled data from GATS surveys conducted between 2009 to 2018 and averaged values from low- and middle-income countries.

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)	41%	*
Increase (%) in QA as a result of receiving brief advice	60%	[24]
Treatment use (Tx Use)		
No evidence-based treatment	90%	[79] **
Pharmaceutical assistance	9%	[79] ***
Counselling	0%	[79] ***
Both pharmaceutical assistance and counselling	1%	[79] ***
Treatment effectiveness		
No evidence-based treatment	7%	[76]
Pharmaceutical assistance	15%	[79]****
Counselling	12%	[79]****
Both pharmaceutical assistance and counselling	22%	[79]****
% of adult smokers who visit primary care clinic annually	50%	[80]*****
% of smokers who relapse after successfully quitting	60%	[81]
Number of health providers	3,700	[82]*****

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

** Assumption based on evidence that nicotine replacement therapy is not widely available [24] and in line with WHO studies that have assumed around 10 percent coverage rates for interventions in low- and middle-income countries [83].

*** No evidence was available on the types of treatment employed by those who seek to quit using evidence-based forms of treatment. The analysis draws on evidence-based treatment rates from a US study [79] in which most tobacco users (88 percent) attempt to quit using pharmaceutical assistance alone, some (seven percent) use pharmaceutical assistance and seek counselling, and a few (four percent) seek counselling only.

**** 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.

***** Assumption in line with other WHO studies on the coverage of cessation interventions [80].

***** Sum of two indicators in the WHO Global Health Observatory (GHO) for the latest year for which information was available: 1) number of physicians and 2) number of nursing personnel.

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*.¹⁸

Table A4: Impact size: Relative reduction in the prevalence of current smoking by tobacco control policy/intervention, over a period of five (2021-2025) and 15 years (2021-2035)

WHO FCTC Policy Actions	Relative reduction in the prevalence of current smoking	
	First 5 Years (2021–2025)	Over 15 Years (2021–2035)
Tobacco Control Package (all policies/interventions implemented simultaneously)	27.7%	46.6%
Increase taxes on cigarettes (<i>WHO FCTC Art. 6</i>)	9.2%	19.4%
Create smokefree indoor public and work places (<i>WHO FCTC Art. 8</i>)	9.0%	15.0%
Implement plain packaging of tobacco products (<i>WHO FCTC Guidelines for implementation of Art. 11 and WHO FCTC Guidelines for implementation of Art. 13</i>)	2.4%	4.0%
Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship (<i>WHO FCTC Art. 13</i>)	9.8%	16.4%
Promote tobacco cessation and treatment of dependence by training health professionals to provide brief advice to quit tobacco (<i>WHO FCTC Art. 14</i>)	0.5%	2.9%
<p>* 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 PR_i and PR_j, (1-PR_i) x (1-PR_j) [is] applied to the current smoking prevalence” [49].</p>		

18 Available upon request.

**STEP 4**

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

To analyze 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 2035 (end of the analysis), no change occurs from the tobacco control provisions that are currently in place. In the intervention scenario, Fiji 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 Fiji can achieve by taking targeted actions to reduce tobacco use.

Marginal effects are calculated as follows for each outcome:

$$\text{Marginal Effects} = \text{Outcome Base Scenario} - \text{Outcome Intervention Scenario}$$

- **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 healthcare 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.

**STEP 5**

Estimate the financial costs of implementing the tobacco control policies and interventions modeled, both individually and collectively.

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 [77].

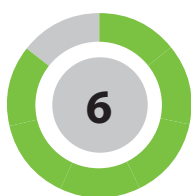
The Tool uses a ‘bottom up’ or ‘ingredients-based’ approach. In this method, each resource that is required to implement the tobacco control measure is identified, quantified, and valued. The Tool estimates the cost of surveillance, human resources—for programme management, transportation, advocacy,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

Across these categories, the Tool contains default costs from 2011, which are sourced from the WHO CHOICE costing study. Following Shang and colleagues [84], the Tool is updated to reflect 2019 costs by updating several parameters: the US\$ to local currency unit exchange rate (2019), purchasing power parity (PPP) exchange rate (2019), GDP per capita (US\$, 2019), GDP per capita (PPP, 2019), population (total, and share of the population age 15+, 2019), labor force participation rate (2019), gas per liter, and government spending on health as a percent of total health spending (2017) [77]. 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.¹⁹ Based on WHO’s training package for treating tobacco dependence in primary care [85], 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.

¹⁹ The analysis assumes a 10 percent of health workers turn over annually [86].

We further assume that the training occurs in person in a rented facility space. Costs of training include those to rent the facility,²⁰ 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.²¹ 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 of primary care outpatient visits [87]. The derivation of these estimates is detailed elsewhere [88], but in overview, the estimates reflected the “hotel cost” of a ten-minute visit²² to a health facility with beds. We updated the estimates to 2020 local currency units, using 2010 purchasing power parity conversion factors and local consumer price indices [89]. For the purposes of the investment case, administration of the 5A’s brief intervention is assumed to take 10 minutes [90]. 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.



STEP 6

Quantify the return on investment (ROI) for the various tobacco control policies and interventions modeled, both individually and collectively.

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 policies 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.

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

20 Rental costs per sq foot are obtained from the WHO Costing Tool with the room size estimated is based on square feet per person estimates for collaboration rooms [91].

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

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



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8. References

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