

# The case for investment in tobacco control: lessons from four countries in the Americas

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## ABSTRACT

**Objective.** To synthesize learnings from four national tobacco control investment cases conducted in the Americas (Colombia, Costa Rica, El Salvador, Suriname) under the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) 2030 project, to describe results and how national health authorities have used the cases, and to discuss implications for the role of investment cases in advancing tobacco control.

**Methods.** We draw on findings from four national investment cases that included 1) a cost-of-illness analysis calculating the health and economic burden of tobacco use, 2) a return-on-investment analysis of implementing key tobacco control demand reduction measures, and 3) a subsidiary analysis of one tobacco control topic of national interest (e.g., equity implications of cigarette taxation). Co-authors reported how cases have been used to advance tobacco control.

**Results.** In Colombia, Costa Rica, El Salvador, and Suriname, tobacco use causes social and economic losses equivalent to between 1.0 to 1.8 percent of GDP. Across these countries, implementing WHO FCTC demand reduction measures would save an average of 11 400 lives per year over the next 15 years. Benefits of the measures would far outweigh the costs of implementation and enforcement. Governments are using the cases to advance tobacco control, including to improve tobacco control laws and their enforcement, strengthen tobacco taxation, prioritize tobacco control planning, coordinate a multisectoral response, and engage political leaders.

**Conclusions.** National investment cases can help to strengthen tobacco control in countries, including by increasing public and political support for implementation of the WHO FCTC and by informing effective planning, legislation, coordination and financing.

## Keywords

Tobacco use cessation; noncommunicable diseases; economic evaluation in health; evidence-informed policies; taxation of the tobacco-derived products; global health strategy; Americas.

Tobacco use kills nearly one million people in the Americas each year through direct consumption or exposure to second-hand smoke (1). This loss is mainly driven by development of noncommunicable diseases caused by tobacco use, including

cancer, cardiovascular disease, and lung disease (2). Smokers' life expectancies are up to 10 years shorter than non-smokers' (3), resulting in societal and human capital losses. Further, ill health can diminish worker productivity (4–6), ultimately hindering

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economic growth (7). Tobacco use inflicts many other negative consequences on sustainable development. It contributes to hunger and poverty (8,9), exacerbates inequalities (10), and causes environmental damage when considering the harms of tobacco growing, manufacturing and post-consumption waste (11–13).

The WHO Framework Convention on Tobacco Control (WHO FCTC) came into force in 2005 as the first treaty negotiated under the auspices of the World Health Organization. Its 182 Parties have committed to implementing evidence-based tobacco demand and supply reduction measures. The Convention Secretariat's FCTC 2030 project provides support to countries eligible to receive official development assistance (ODA) to accelerate implementation of WHO FCTC measures in line with the 2030 Agenda for Sustainable Development (14). Specific activities include a WHO FCTC needs assessment, technical assistance in implementing key WHO FCTC articles according to national priorities, and an investment case for comprehensive implementation of the WHO FCTC (15). All countries that are eligible to receive ODA and that are Parties to the WHO FCTC are eligible to join the FCTC 2030 project, and countries are selected based on applications (15).

The FCTC 2030 project has supported 33 countries to expand tobacco control efforts, including countries in the Americas — Colombia, Costa Rica, El Salvador, Suriname.<sup>1</sup> While each of these countries has improved tobacco control, none have achieved full WHO FCTC implementation. In Colombia, Costa Rica, and El Salvador, one in 10 adults continue to smoke (16–18). Two in 10 adults smoke in Suriname, where rates are near the global average of adult smoking prevalence: 22 % (19,20). Broadly, the Americas Region is on track to meet the WHO target goal to reduce tobacco use by 30 % from 2010 levels by 2025 (19). But regionally, 118 million people continue to smoke (2).

Led by Ministries of Health and assisted by international partners (e.g., Convention Secretariat, the Pan American Health Organization, United Nations Development Programme), national investment cases support WHO FCTC implementation by revealing how reductions in smoking can advance health and sustainable development broadly. Key stakeholder interviews inform an institutional and context analysis that identifies drivers of current policy approaches, implementation challenges, and policy opportunities. The cases also provide context-specific economic evidence on the current and projected social and economic harms of tobacco use and how these harms can be reduced cost-effectively. By going beyond health sector considerations, the cases help to align diverse stakeholders behind tobacco control.

The objective of this study is to synthesize investment case results from four FCTC 2030 project countries in the Americas, describe how the investment cases have been used, and discuss implications for the role of investment cases in advancing tobacco control.

## METHODS

The process, data, and methods for conducting WHO FCTC investment cases are detailed at length in publicly-available reports (21). We briefly summarize methods here for ease of reference. The investment cases comprise of an assessment of

country status and priorities for tobacco control, and an economic analysis consisting of three components: 1) a cost-of-illness analysis to calculate the health and economic burden of tobacco use, 2) a return-on-investment (ROI) analysis of the impact of implementing key tobacco control demand reduction measures, and 3) secondary analyses of one tobacco control topic of national interest (e.g., equity implications of cigarette taxation).

Each investment case compared two scenarios: a *baseline* scenario consisting of tobacco-attributable social and economic losses if the state of tobacco control is held constant, and an *intervention* scenario assessing the social and economic gains that could be achieved by fully implementing and enforcing key WHO FCTC demand reduction measures. A Stata-based static model employing a population attributable fraction (PAF) approach (i.e., tobacco-attributable deaths and illness decrease in direct proportion to modelled reductions in smoking) assessed outcomes in the intervention scenario.

The baseline scenario was established using country-specific tobacco-attributable mortality and morbidity data (by sex and five-year age groups) from the Global Burden of Disease study (1). Health outcomes were monetized to place a value on ill-health caused by tobacco use using established economic evaluation methods and data from academic literature. We estimated tobacco-attributable healthcare expenditures by multiplying total national healthcare expenditures (22)—consisting of public, household out-of-pocket (OoP), voluntary, and other health care payment schemes—by the estimated smoking-attributable fraction (SAF) of healthcare expenditures (23). We also valued social losses—the intrinsic value of lives lost due to tobacco-related illness (24)—and workplace productivity losses—including absenteeism (missed work due to smoking-related illnesses) (5), presenteeism (reduced productivity due to smoking-related illnesses) (6), and lost worktime due to smoking breaks (4). Table 1 summarizes data inputs.

Over a 15-year time horizon—chosen to correspond with the original time frame allotted to achieve the Sustainable Development Goals (SDGs)—the intervention scenario examined the extent to which demand reduction measures within the WHO FCTC can reduce social and economic losses. Measures are included in a case if at the time of the analysis the country had not yet enacted them or if the measures were enacted but at a level below WHO FCTC implementation guidelines.

The smoking-prevalence reduction effects of demand-reduction measures were derived from the Technical Brief of Tobacco Interventions for Appendix 3 of the WHO Global NCD Action Plan (25), and also by using local or regional elasticity estimates for taxes (26–28) and methods from published literature for clinical-level tobacco cessation (29). To consider the impact of multiple measures operating together, we applied constant proportional reductions following established methods (30), which meant that the impact of measures operating together was less than the sum of the effect sizes of the individual measures.

The cost to government to implement and enforce measures was estimated using an updated version of the WHO NCD Costing Tool (31), and we also considered tobacco control program costs when analyzing the costs of implementing all measures as a package. Costs and monetized benefits (both discounted) were compared to assess the 15-year ROI of the modeled measures.

Secondary analyses investigated one other tobacco control topic of interest chosen by national health authorities. For Colombia, an informal literature review—ultimately assessing 101 published

<sup>1</sup>. Panama is being supported under Phase 3 of the project, with a WHO FCTC investment case planned in 2022.

TABLE 1. WHO FCTC investment cases: data and sources

Parameter	Colombia (2017)	Costa Rica (2019)	El Salvador (2017)	Suriname (2019)
<b>Demographic, epidemiological</b>				
Background mortality			(1)	
Life expectancy by age and sex			(39)	
Population	51 million (39)	5 million (40)	5 million (39)	576 000 (39)
Smoking prevalence	9% (16)	9% (17)	10% (18)	20% (20)
Tobacco-attributable mortality and morbidity by cause, age, sex	(1) Adjusted based on (41)	(1)	(1)	(1)
<b>Valuing healthcare expenditures</b>				
SAF of healthcare expenditures (%) <sup>a</sup>	6.8% (41)	5.7% (42)	6.5% (41)	2.6% (23)
Total healthcare expenditures (USD)	17 billion (22)	4.5 billion (22)	1.8 billion (22)	273 million (22)
<b>Valuing a lost life year</b>				
Social value of a life year (USD) <sup>b</sup>	8 700	17 100	5 800	9 700
<b>Valuing workplace productivity</b>				
Employment rate (%)	64% (43)	55% (40)	58% (43)	48% (43)
Average annual salary (USD)	4 800 (43)	9 500 (40)	3 200 (44)	3 700 (43)
Excess absenteeism (days) <sup>c</sup>	2.6 (4)	2.9 (5)	2.6 (4)	2.9 (5)
Excess presenteeism (% working time)	3.1% (6)	3.1% (6)	3.1% (6)	3.1% (6)
Unsanctioned smoking breaks (minutes)	8 (4)	N/A <sup>d</sup>	10 (4)	10 (4)
<b>Other</b>				
Discount rate <sup>d</sup>	3%	5%	3%	5%
Exchange rate (LCU to USD) <sup>e</sup>	2 951:1 (43)	587:1 (43)	1:1 (43)	7.5:1 (43)

a. Smoking Attributable Fraction (SAF) studies have been conducted in Colombia and Costa Rica. National authorities in El Salvador requested use of the average of Latin American countries found in previous modelling studies.

b. The social value of a life year is calculated as GDP per capita (43) x a GDP multiplier (1.4) reflecting Jamison et al. (2013) full income approach (24).

c. Parameter updated in more recent investment cases following new evidence from Troelstra et al. (2020). (5)

d. Five percent discount rates used in more recent investment cases following guidance from Haacker et al. (2019). (45)

e. Results from the WHO FCTC investment cases were converted from local currency units (LCU) to USD for this special report, using average annual exchange rates from the respective years in which the investment cases were conducted. Results are in current USD of the year in which the investment case was conducted.

f. National authorities requested that smoking breaks not be included in the analysis given that in-country studies have not examined their frequency and duration.

Source: prepared by the authors based on results in WHO FCTC Investment Cases in the Americas

LCU, Local currency units; USD, United States Dollars; WHO FCTC, World Health Organization Framework Convention on Tobacco Control

articles (between 2009 to 2019)—was conducted to investigate links between tobacco smoke exposure in children and health, economic, and educational outcomes. Costa Rica's case assessed the equity implications of tax increases generating a 20 % increase in cigarette prices using estimates of price elasticity by income quintile in low- and middle-income countries (32). El Salvador's case estimated government tax revenue lost due to illicit trade following methods developed by Joosens et al. (33), and drawing on Euromonitor data on the share of cigarettes purchased on the illicit market (34).<sup>2</sup> Finally, the Suriname case estimated government tax revenue gains resulting from specific excise tax increases that shifted the average per pack price of cigarettes from USD 3.4 to USD 4.7 over three years, using evidence on price elasticity from countries in Latin America and the Caribbean (28).

Co-authors (AS, ES, FB, LP)—all authorities at national-level health institutions—reported how investment cases have been used to advance tobacco control.

## RESULTS

### Current burden of tobacco use

By country, Table 2 shows total social and economic losses due to tobacco use, breaking the burden down by source. The

<sup>2</sup> Estimated at 24 % in El Salvador. Euromonitor data has been cited for inconsistencies (35) and the company has come under scrutiny for projects undertaken with the tobacco industry (36). Given that no independent estimates of illicit trade were available for El Salvador, however, Euromonitor data was used as the basis of the size of illicit trade in the analysis. Findings should be cautiously interpreted.

value of lives lost due to tobacco use is 50 % of the total economic burden, followed by healthcare expenditures (38%) and workplace productivity losses (11%).

Figure 1 contextualizes losses by country. Annual social and economic losses range from 1.0 to 1.8 percent of GDP and are between 5 to 19 times as large as government-collected tobacco tax revenue. The losses per *licit* cigarette pack sold far outweigh the financial benefits—represented by the per pack price—that accrue in the value chain to growers, manufacturers, vendors, other supply chain stakeholders, and government (through taxation).

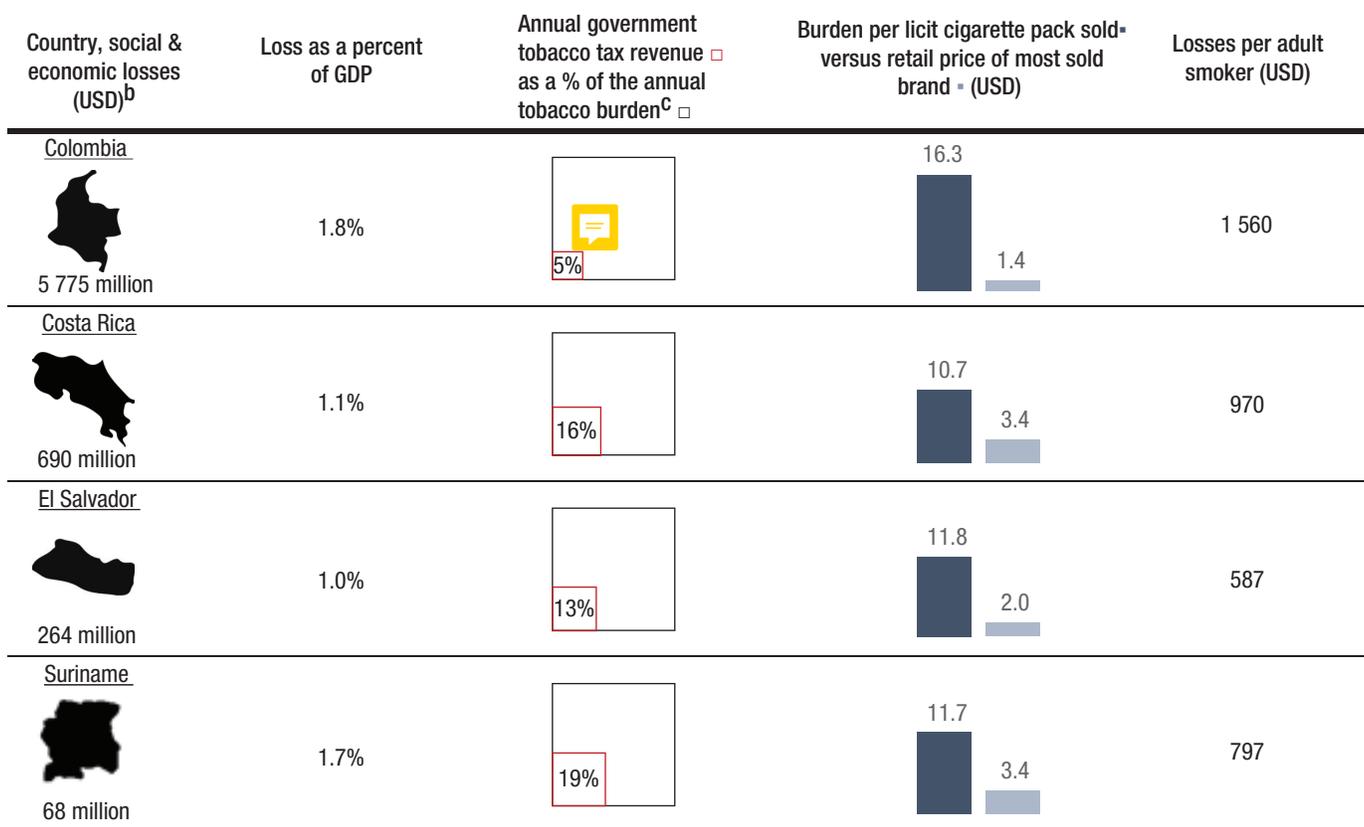
### Benefits of interventions to reduce the burden of tobacco use

In Colombia, Costa Rica, El Salvador, and Suriname, the discounted 15-year costs to implement and enforce the remaining WHO FCTC demand-reduction agenda were USD 65, 13, 20, and 11 million, respectively. These expenditures represent one-tenth of one percent or less of current government health expenditures (GHE) in Colombia, Costa Rica, and El Salvador, and less than four-tenths of one percent of GHE in Suriname.

Figure 2 shows annual deaths due to tobacco use in the status quo scenario and post-intervention. Across all countries, the measures reduce average annual tobacco-attributable deaths by 29 %, saving an average of 11 400 lives per year. Implementing the demand reduction measures would contribute

<sup>3</sup> Not analyzed in the El Salvador case.

**FIGURE 1. Contextualizing the burden of tobacco use against economic indicators**



a. The burden of tobacco use consists of social and economic losses. Social losses are the intrinsic value of lives lost due to tobacco-related illness. Economic losses include workplace productivity losses—i.e., absenteeism (missed work due to smoking-related illnesses), presenteeism (reduced productivity due to smoking-related illnesses) and lost worktime due to smoking breaks—as well as tobacco-attributable healthcare expenditures.  
 b. Results from the WHO FCTC investment cases were converted from local currency units (LCU) to USD for this special report, using average annual exchange rates (43) from the respective years in which the investment cases were conducted (CO – 2 951:1 ; CR – 587:1 ; ES 1:1; SR 7.5:1). Results are in current USD of the year in which the investment case was conducted.  
 c. Tax revenue comparisons are provided for context and are not meant to suggest that taxes should be increased to levels that equalize revenue with the tobacco burden. Government cigarette tax revenue and the retail price of the most sold brand are from WHO Global Tobacco Control Reports in years closest to when the analysis occurred (46,47)—Colombia USD 301 million (excise tax revenue from all tobacco products, 2017); Costa Rica USD 113 million (revenue from all tax types for all tobacco products, 2018); El Salvador USD 35 million (revenue from all tax types for cigarettes only, 2016); Suriname USD 13 million (revenue from all tax types for all tobacco products, 2019).  
**Source:** prepared by authors based on results in WHO FCTC Investment Cases in the Americas  
 GDP, Gross Domestic Product; USD, United States dollars

**TABLE 2. The burden of tobacco use<sup>a</sup>: annual social and economic losses by source and country, in USD millions (% of total)**

Country, year	Social losses <sup>a</sup>	Workplace productivity losses			Health system
	Premature mortality	Absenteeism	Presenteeism	Smoking breaks	Healthcare expenditures
Colombia (2017)	2 923 (51%)	115 (2%)	346 (6%)	196 (3%)	2 194 (38%)
Costa Rica (2019)	351 (51%)	23 (3%)	62 (9%)	N/A <sup>c</sup>	255 (37%)
El Salvador (2017)	91 (35%)	10 (4%)	27 (10%)	19 (7%)	116 (44%)
Suriname (2019)	49 (72%)	02 (3%)	06 (8%)	04 (6%)	07 (10%)

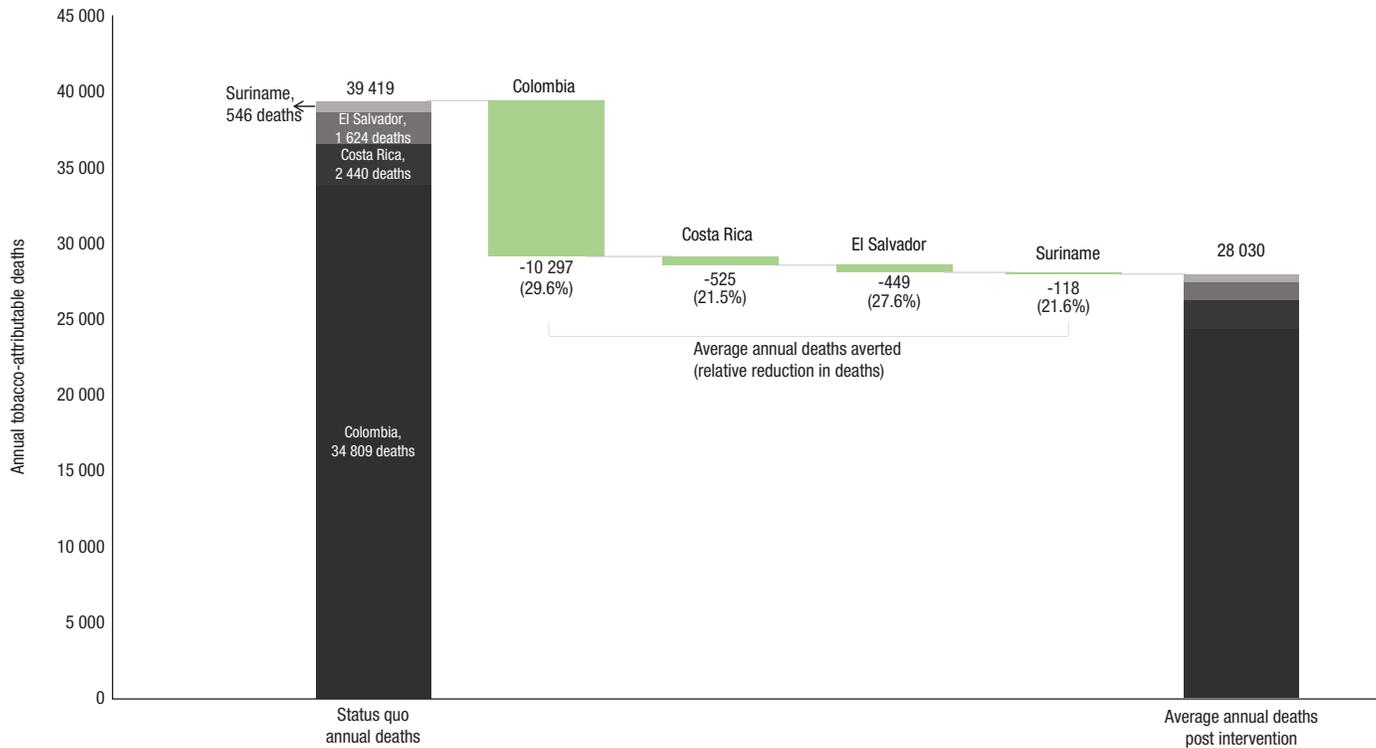
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 c. National authorities requested that smoking breaks not be included in the analysis given that in-country studies have not examined their frequency and duration.  
**Source:** prepared by authors based on results in WHO FCTC Investment Cases in the Americas  
 USD, US dollars

the equivalent of about one-tenth of the needed reduction in premature mortality for countries to achieve SDG Target 3.4 to reduce premature mortality by one-third by 2030 (Colombia, 13.1 %; Costa Rica, 8 %; Suriname, 11 %)<sup>3</sup>.

Table 3 compares monetized benefits of improvements in health to the costs of implementing the measures. All individual measures have a positive return on investment. In Colombia and El Salvador, increases in cigarette taxation generate the largest share of benefits, while comprehensive bans on tobacco advertising, promotion and sponsorship (TAPS) in Costa Rica and instituting good practice mass media campaigns in Suriname generate the largest benefits.

**Results of secondary analyses**

**Suriname: tax revenue implications of cigarette tax increases.** Suriname’s tobacco control investment case examined a scenario in which annual specific excise tax increases would shift the price of the most sold brand of cigarettes from USD 3.40 to USD 4.70 over a three-year period. These tax increases would decrease the prevalence of smoking by 4.6 % in

**FIGURE 2. Annual deaths due to tobacco use pre- and post-intervention, by country**

Source: prepared by authors based on results in WHO FCTC Investment Cases in the Americas

relative terms and drop licit cigarette consumption from 5.8 to 5.1 million packs annually. Even with fewer Surinamese smoking, government revenue would increase year-over-year. Over three years, undiscounted revenue gains were projected at USD 11.9 million—equivalent to about 4 % of 2019 GHE (22).

**Costa Rica: equity considerations of tax increases.** Costa Rica's case assessed the impact—across different income groups—of a one-year tax increase that would raise the average price of the most sold brand of cigarettes by about 20 %. The increase in price would reduce smoking rates in all income groups. However, individuals with lower incomes, who are more responsive to changes in price, would quit at higher rates—with a 5.5 % relative reduction in smoking prevalence among the lowest quintile compared to only 1.7 % in the highest quintile. Around half of the averted deaths that would result from tax increases would be among the poorest 40 % of the population.

**El Salvador: revenue losses due to illicit trade.** According to Euromonitor, around 24 % of cigarettes in El Salvador are purchased on the illicit market (see footnote 2) (34), meaning about seven million untaxed packs were purchased in 2017.<sup>4</sup> The investment case examined a hypothetical scenario in which illicit trade is eliminated and cheaper cigarettes are not available to be purchased at lower prices than on the licit market.

<sup>4</sup> 22.4 million packs of cigarettes were bought on the licit market in El Salvador in 2017, generating USD 27 million in government revenue (source: national authorities).

Based on prevailing price elasticities of demand, smokers would reduce consumption (by 4.2 million packs) in the face of higher purchasing prices in the licit market. Still, with many smokers continuing to purchase cigarettes even at higher prices, 2.9 million packs of cigarettes previously purchased in the illicit market would be purchased licitly, generating an additional USD 3.4 million in government revenue (15 % increase).

**Colombia: tobacco smoke exposure among children.** A literature review identified global evidence that tobacco smoke exposure and prenatal maternal smoking increases infectious disease presentation in children and can lead to ear, oral, lymphatic system, cardiovascular, liver, kidney, respiratory, and other physical conditions (e.g., obesity). Exposure is also linked to mental health disorders (e.g., depression, anxiety) and reproductive harm. Exposed infants and children have higher healthcare utilization rates. Exposure is also linked to reduced academic performance. If documented rates of home smoke exposure in Colombian adolescents—15 % (37)—hold across all ages 15 and under, about 1.8 million Colombian children and adolescents are at higher risk of these negative outcomes.

### Dissemination and uses of investment case results

Events to publicize results were held in-person in Colombia and El Salvador and online in Suriname, while a launch in Costa Rica was delayed due to the COVID-19 pandemic. Various events were attended by civil society; representatives of government institutions overseeing agriculture, commerce,

**TABLE 3. 15-year discounted costs to implement and enforce tobacco control measures (USD millions), discounted monetized benefits (USD millions), and return on investment**

Country	Measure <sup>a,b</sup>	Costs <sup>c</sup>	Benefits	ROI
<b>Colombia (2017-2032)</b>	Increase cigarette taxation	19	12 516	658:1
	Enforce bans on smoking in indoor public places	17	4 329	258:1
	Mandate large graphic warning labels	08	5 351	659:1
	Mandate plain packaging	08	3 610	444:1
	<b>Combined impact<sup>d</sup></b>	<b>65</b>	<b>19 652</b>	<b>305:1</b>
<b>Costa Rica (2019-2034)</b>	Increase cigarette taxation	02	490	197:1
	Enforce bans on smoking in indoor public places	04	388	108:1
	Mandate plain packaging	02	197	103:1
	Enact/enforce comprehensive TAPS ban	02	643	329:1
	<b>Combined impact</b>	<b>13</b>	<b>1 471</b>	<b>117:1</b>
<b>El Salvador (2017-2032)</b>	Increase cigarette taxation	02	234	127:1
	Enforce bans on smoking in indoor public places	03	206	71:1
	Rotate large graphic warning labels	02	221	146:1
	Mandate plain packaging	02	193	128:1
	Enact/enforce comprehensive TAPS ban	02	220	144:1
	Offer brief advice to quit at the primary care level & Quitline	10	69	7:1
	<b>Combined impact</b>	<b>20</b>	<b>839</b>	<b>43:1</b>
<b>Suriname (2019-2034)</b>	Increase cigarette taxation	02	50	29:1
	Enforce bans on smoking in indoor public places	01	31	22:1
	Mandate plain packaging	01	19	23:1
	Mass media information campaigns	01	71	54:1
	Offer brief advice to quit at the primary care level	03	07	2:1
	<b>Combined impact</b>	<b>11</b>	<b>146</b>	<b>13:1</b>

a. Key WHO FCTC demand reduction measures include: (1) increasing cigarette taxation to reduce the affordability of tobacco products (WHO FCTC Article 6); (2) implementing and enforcing bans on smoking in all public places to protect people from tobacco smoke (WHO FCTC Article 8); (3) mandating that tobacco products and packaging carry large graphic health warnings—covering ≥50 percent of tobacco packaging—to describing the harmful effects of tobacco use (WHO FCTC Article 11); (4) mandating plain packaging of all tobacco products (WHO FCTC Guidelines for Articles 11 and 13); Promoting and strengthening public awareness about tobacco control issues and the harms of tobacco use through mass media information campaigns (WHO FCTC Article 12); (6) enacting and enforcing a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship (TAPS) (WHO FCTC Article 13), and; (7) Providing tobacco cessation support to reduce tobacco dependence (WHO FCTC Article 14).

b. Some measures were already in place at recommended levels in a country and were not considered in the analysis. The “brief advice to quit” intervention was not analyzed in the Colombia and Costa Rica cases.

c. Results from the WHO FCTC investment cases were converted from local currency units (LCU) to USD for this special report, using average annual exchange rates (43) from the respective years in which the investment cases were conducted (CO – 2 951:1 ; CR – 587:1 ; ES 1:1; SR 7.5:1). Results are in current USD of the year in which the investment case was conducted.

d. Combined costs and monetized benefits of the tobacco control packages are not the sum of individual interventions. To consider the impact of multiple measures operating together, we applied constant proportional reductions which meant that the impact of measures operating together was less than the sum of the effect sizes of the individual measures. When analyzing the costs of implementing all measures as a package, we also considered tobacco control program costs—in addition to the cost of individual interventions.

Source: prepared by authors based on results in WHO FCTC Investment Cases in the Americas ROI, return on investment; USD, United States dollars

customs, education, finance, foreign affairs, health, and police; media; and other actors. Media coverage expanded the reach of results in Colombia and El Salvador. In both locations, results were also presented to legislative members and capacity-building workshops were held to detail the methodology for local academics and/or research institutions.

Post-launch, in El Salvador, *Fondo Solidario para la Salud* (Fosalud) used case results to inform proposals for amendments to the Tobacco Control Law (e.g., mandating plain packaging and bans on point-of-sale advertising) and submitted them to the Health Commission of the Legislative Assembly of Parliament (2021 to 2024) during consideration of a new Tobacco Products Taxation Law. Fosalud and Ministry of Health (MoH) also presented results to the Ministry of Tourism, who agreed to work with Fosalud to promote smoke-free environments. The agencies took a nation-wide tour of hospitality areas to enforce mechanisms for smoke-free indoor public places. Further, Fosalud briefed the Presidency of the Republic on the potential for tobacco tax increases to address fiscal deficits, using investment case evidence that collected government tobacco tax revenue is less than the economic losses due to tobacco to justify increases. As a result, the Ministry of Finance developed reform proposals that include review of the investment case findings on the impact of increasing taxes on tobacco.

In Colombia, the Ministry of Health and Social Protection’s technical team selected some FCTC measures for inclusion in the investment case understanding that economic evidence was needed to inform and justify its proposals for new laws that would bolster its long-held goals for tobacco control. It is using the evidence to help formulate the next 10-year Public Health Plan (2022 to 2031). Though the final Plan is subject to approval by multiple stakeholders, the Ministry is advocating that the Plan call for implementation of *all* demand reduction measures in the investment case (for example, the Ministry proposes to increase of the size of health warnings to cover 70 % of tobacco packaging) given their cost-effectiveness and potential to improve population health.

While the launch of the Costa Rica investment case was delayed by COVID-19, the report has still served as a supporting reference document—to justify the definition, implementation, and monitoring of tobacco control—in consultations between the executive and legislative branches of government. In an appearance in the Legislative Assembly, the Minister of Health referenced and submitted the case as evidence during consideration of reforms to subsections of the 2012 Tobacco Control Law. Costa Rica does not yet have a national coordination mechanism for tobacco control and aims to use the investment case to facilitate dialogue between governmental stakeholders.

In Suriname, MoH incorporated investment case findings into its briefing paper on taxation, including on the ROI of the measure and the extent to which a cigarette tax increase can reduce smoking prevalence and increase government revenue. In 2021, an agreement between government, private sector, and trade union representatives advocated for changing the tobacco tax structure from the WHO FCTC-recommended uniform specific excise structure to a tiered excise tax structure more susceptible to industry manipulation. Informed of the proposal, MoH leveraged technical expertise from the Pan American Health Organization and the Convention Secretariat and investment case findings to argue for suppressing the change to the Ministry of Finance. Thereafter, this Ministry advised the government not to adopt a tiered tax structure. MoH has further presented the results to the Vice Chair of Parliament and broadcast results through mass media for World No Tobacco Day 2021. The Ministry is also using findings to advocate for

amendments (i.e., mandating plain packaging, strengthening enforcement of bans on smoking in indoor public places) to the 2013 Tobacco Control Act.

## DISCUSSION

Findings from four WHO FCTC investment cases in the Americas show that tobacco use causes social and economic losses equivalent to 1 to 1.8 % of GDP. The losses are slightly lower than the average (1.9 %) identified across 33 cases conducted worldwide between 2017 to 2022. In the four countries, investments in tobacco control can lower the tobacco burden and generate health gains equivalent to about one-tenth of the needed premature mortality reduction to achieve SDG 3.4.

Across countries in the Americas, the cases identified increasing tobacco taxes as either the most or second-most impactful tobacco control measure. Secondary analyses showed that increasing taxes can generate more government revenue (USD 11.9 million over three years in Suriname) and benefit individuals with low incomes (saving the most lives among low-income earners in Costa Rica). To fully harness the power of tobacco taxes to improve health, equity, and revenue, countries in the Americas should align tax structures with WHO recommendations (38), and ensure taxation rates cannot be undermined by illicit trade by ratifying the Protocol to Eliminate Illicit Trade in Tobacco Products and embracing supply-side interventions such as track and trace programs. Findings from El Salvador suggest rewards to such efforts—eliminating illicit trade would lower consumption (by four million cigarette packs) and increase government tax revenue (USD 3.4 million).

Though no new general tobacco control laws have been enacted in the four countries since cases were conducted, the experiences of Colombia, Costa Rica, El Salvador, and Suriname show diverse ways that empowering ministries of health with context-specific evidence can advance WHO FCTC implementation. The countries are using the findings to position tobacco control as a sustainable development priority; strengthen responses through expanded alliances; develop plans, strategies, and briefing documents; and strengthen governance and financing. An advantage of conducting the cases within the broader FCTC 2030 project is that countries can be supported with technical implementation. In Suriname, this advantage opportunely helped prevent tobacco control weakening when the MoH drew on WHO FCTC resources to defend against a proposed transition to a disadvantageous tobacco tax structure. Other technical assistance examples include support on fiscal and legislative processes; integrating case findings and recommendations into costed and prioritized plans; and strengthening multi-sectoral coordination.

For investment cases to achieve maximum impact, they must address tobacco industry interference in policymaking, in line with WHO FCTC Article 5.3. That tobacco taxation is one of the most cost-effective measures, yet often one of the least pursued, underscores the continued presence of commercial and political barriers to tobacco control. It stresses the importance of continuing to dismantle the economic myths surrounding tobacco and of revealing tobacco's society-wide harms. To this end, investment cases may benefit from better framing of tobacco's negative impact on areas such as environmental

or COVID-19 outcomes, or on demographic sub-groups (e.g., adolescents, tobacco farmers). Surveys are currently being administered to FCTC 2030 participants to understand how countries have used the cases and how to better tailor them to country experiences.

While investment cases cover a 15-year period, they are conducted with specific government counterparts at specific moments. Implementation progress must be sustained despite shifts in circumstance and this may require updating cases. Cases are country owned and led, but technical expertise is required to conduct and/or update cases. Shifting the analysis model to an accessible online platform would facilitate national authorities' ability to evolve cases as new data emerges.

Other limitations include available data. Little real-world data on costs is available, and more resources may be required to implement and enforce tobacco control than we captured through the WHO NCD Costing Tool. Costing surveys of measures with exemplary operation and enforcement could enhance knowledge of required budgets for tobacco control while also highlighting model implementation templates for countries to follow. Some tobacco data was not uniformly available at country level (e.g., smoking-attributable healthcare expenditures, quit rates—and methods—among smokers, cigarette price elasticities of demand) exposing the need for continued research on tobacco in LMICs.

Despite limitations, evidence from four countries in the Americas demonstrates that tobacco continues to siphon resources from health, economic, and social goals. Investment cases can provide ministries of health with impactful evidence on the cost effectiveness of tobacco control measures that can be used to connect with diverse government stakeholders and align interests. Pairing investment cases with technical implementation support can accelerate the tobacco control agenda.

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## El caso de la inversión en el control del tabaco: las enseñanzas de cuatro países de la Región de las Américas

### RESUMEN

**Objetivo.** Resumir las enseñanzas de cuatro casos nacionales de inversión en el control del tabaco llevados a cabo en la Región de las Américas (Colombia, Costa Rica, El Salvador y Surinam) en el marco del proyecto 2030 del Convenio Marco de la Organización Mundial de la Salud para el Control del Tabaco (CMCT), describir los resultados y cómo las autoridades nacionales de salud han empleado los casos, y abordar las implicaciones para la función de los casos de inversión en el avance del control del tabaco.

**Métodos.** Este estudio está basado en los hallazgos de cuatro casos de inversión nacional que incluían 1) un análisis del costo de la enfermedad que estima la carga sanitaria y económica del consumo de tabaco, 2) un análisis del rendimiento de la inversión de la ejecución de medidas clave de reducción de la demanda en el control del tabaco, y 3) un análisis subsidiario de un tema de interés nacional sobre el control del tabaco (por ejemplo, el impacto en la equidad de los impuestos sobre los cigarrillos). Los coautores notificaron cómo se han utilizado los casos para avanzar en el control del tabaco.

**Resultados.** En Colombia, Costa Rica, El Salvador y Surinam, el consumo de tabaco causa pérdidas sociales y económicas equivalentes a entre el 1,0 y el 1,8 por ciento del PIB. En todos estos países, la aplicación de las medidas de reducción de la demanda recogidas en el CMCT de la OMS salvaría una media de 11 400 vidas al año en los próximos 15 años. Los beneficios de estas medidas superarían con creces los costos de ejecución y cumplimiento. Los gobiernos están utilizando los casos para avanzar en el control del tabaco, como para mejorar las leyes de control y su aplicación, reforzar los impuestos sobre el tabaco, priorizar la planificación del control del tabaco, coordinar una respuesta multisectorial e involucrar a los líderes políticos.

**Conclusiones.** Los casos de inversión nacional pueden ayudar a fortalecer el control del tabaco en los países, por ejemplo, al aumentar el apoyo público y político a la aplicación del CMCT de la OMS y al informar sobre una planificación, legislación, coordinación y financiación eficaces.

### Palabras clave

Cese del uso de tabaco; enfermedades no transmisibles; evaluación en salud; política informada por la evidencia; tributación de los productos derivados del tabaco; estrategias de salud globales; Américas.

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## Em defesa do investimento no controle do tabaco: lições de quatro países das Américas

### RESUMO

**Objetivo.** Sintetizar as lições aprendidas com quatro casos de investimento nacional no controle do tabaco nas Américas (Colômbia, Costa Rica, El Salvador e Suriname) no âmbito do projeto Convenção-Quadro para o Controle do Tabaco da Organização Mundial da Saúde (CQCT-OMS) 2030, descrever os resultados e as formas como as autoridades sanitárias nacionais utilizaram os casos e discutir as implicações para o papel dos casos de investimento no avanço do controle do tabaco.

**Métodos.** O presente estudo recorre aos achados de quatro casos de investimento nacional, incluindo: 1) análise de custo da doença, com o cálculo da carga do tabagismo para a saúde e a economia; 2) análise do retorno sobre o investimento na implementação de medidas fundamentais de redução da demanda para controle do tabaco; e 3) análise secundária de um tópico de controle do tabaco de interesse nacional (por exemplo, implicações da tributação de cigarros para a equidade). Os coautores relatam como os casos foram utilizados para promover o controle do tabaco.

**Resultados.** Na Colômbia, na Costa Rica, em El Salvador e no Suriname, o tabagismo provoca perdas sociais e econômicas que equivalem a 1,0 a 1,8% do produto interno bruto. Nesses países, a implementação de medidas de redução da demanda da CQCT-OMS pouparia em média 11.400 vidas por ano nos próximos 15 anos. Os benefícios dessas medidas superariam em muito os custos de implementação e fiscalização. Os governos estão usando esses casos para promover o controle do tabaco, inclusive para melhorar as leis de controle do tabaco e sua fiscalização, reforçar a tributação do tabaco, priorizar o planejamento do controle do tabaco, coordenar uma resposta multissetorial e envolver líderes políticos.

**Conclusões.** Casos de investimento nacional podem ajudar a fortalecer o controle do tabaco nos países, aumentando o apoio político e do público para a implementação da CQCT-OMS e contribuindo para um planejamento, legislação, coordenação e financiamento efetivos.

### Palavras-chave

Abandono do uso de tabaco; doenças não transmissíveis; avaliação em saúde; política informada por evidências; tributação de produtos derivados do tabaco; estratégias de saúde globais; América.

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