World Health Organization
European Region

PARLIAMENT OF GEORGIA

UN INTERAGENCY TASK FORCE ON NCDs
#beatNCDs @un_ncd

Prevention and control of noncommunicable diseases in Georgia

Case for investment

Funded by the European Union

World Health Organization
European Region

PARLIAMENT OF GEORGIA

UN INTERAGENCY TASK FORCE ON NCDs
#beatNCDs @un_ncd

Prevention and control of noncommunicable diseases in Georgia

Case for investment

Funded by the European Union

Abstract

Noncommunicable diseases (NCDs) such as cancer, cardiovascular disease, diabetes and chronic respiratory disease pose a major threat to health and economic development in Georgia. Their total economic toll is over 3 billion lari, roughly 6.2% of the national gross domestic product. This report demonstrates how NCDs harm Georgia's economy and proposes possible interventions to address NCD risk factors, the economic and social benefits of such changes, the potential returns on investment (ROI) and the political feasibility of implementing the interventions in Georgia. Of the interventions, the salt package has the highest ROI, would save 10 000 lives over 15 years and is politically feasible. Strengthening tobacco cessation also has a high ROI, would save 2700 lives and is politically feasible. While alcohol interventions have a high ROI and could save 6900 lives, they would likely face significant political and cultural barriers. Similarly, physical activity interventions had a less favourable ROI and impact and would face significant implementation barriers. An institutional context analysis indicated a series of actionable "entry points" that are feasible and effective for inducing change in the current political and institutional context, including: implementing salt reduction strategies and new tobacco control measures while strengthening existing measures, strengthening other initiatives (e.g. physical activity and reducing alcohol use), using the new NCD strategy and the new primary health care strategy to gain political momentum for NCD prevention and control and uniting all stakeholders through cross-sectoral coordination.

Document number: WHO/EURO:2026-10142-49914-75012 (PDF)

Suggested citation. Prevention and control of noncommunicable diseases in Georgia: case for investment. Copenhagen: WHO Regional Office for Europe; 2026. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Designer: Zsuzsanna Schreck

Contents

Acknowledgements **iv**
Abbreviations **v**
Executive summary **vi**
1. Introduction **1**
Burden of noncommunicable diseases 2
Economic toll of noncommunicable diseases 3
Components of the case for investment 4
2. Situation analysis: noncommunicable diseases and risk factors **7**
Tobacco 8
Alcohol 9
Physical inactivity 10
Diet 11
Metabolic risk factors 11
Air pollution 11
3. Legislation and policies for reducing the burden of noncommunicable diseases **13**
4. Current policies and interventions for addressing risk factors **17**
Tobacco 18
Alcohol 19
Physical activity 19
High consumption of salt, trans-fats and sugar 19
Primary health care 20
Air pollution 21
5. Political economic drivers **23**
6. Challenges and barriers **27**
7. Methods **31**
The economic burden of noncommunicable diseases 32
Policy and clinical interventions 34
Institutional context analysis 40
8. Results **43**
Economic burden 44
Costs of intervention packages 47
Health benefits 50
Social benefits of increased years of healthy life 51
Economic benefits 51
Return on investment 52
Limitations of the economic analysis 54
Results of the institutional context analysis 54
9. Conclusions and recommended actions **59**
References **66**
Annex 1. Description of interventions **70**

Acknowledgements

The WHO Country Office in Georgia express utmost gratitude to the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs, Georgia; the National Centre for Disease Control and Public Health, Georgia; the country team who supported data collection and analysis; and the stakeholders who participated in interviews.

Authors of the report are Khalifa Elmusharaf (University of Birmingham, Dubai), Casey McAndrew (United Health Futures), Chloe Wood (United Health Futures), Loren Kock (United Health Futures) and Winnie Chelagat (United Health Futures).

The economic analysis was conducted by Khalifa Elmusharaf (University of Birmingham, Dubai). The institutional context analysis was led by Casey McAndrew, Chloe Wood, Loren Kock and Winnie Chelagat on behalf of the United Health Futures. Paul Kielstra, Geordan Shannon and Jeremy Lauer of the United Health Futures also provided technical input to the report.

The WHO Country Office in Georgia acknowledges contributions of the in-country technical steering committee which provided data and sources, as well as comments on the methodology adaption of economic analysis and on the report review phases. Additionally, the committee assisted with mobilizing of the participants for interviews for institutional context analysis and stakeholders for primary presentation of the findings. Members of the in-country technical steering committee include Elene Zhorzholadze (Committee of Healthcare and Social Issues of the Parliament of Georgia), Ketevan Goginashvili (Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs), Lela Sturua (National Centre for Disease Control and Public Health), Maia Kereselidze (National Centre for Disease Control and Public Health) and Nana Mebonia (National Centre for Disease Control and Public Health), Simon Gabrichidze (NCD Alliance in Georgia), Sumudu Kasturiarachchi (WHO Regional Office for Europe) and Vano Tsertvsadze (Georgian Institute of Public Affairs).

WHO Country Office in Georgia coordinated the preparation of this report. The project has been planned and implemented under overall technical guidance of Silviu Domente (WHO Country Office in Georgia). Kakha Gvinianidze(WHO Country Office in Georgia) led development and implementation of the project, contributed to review, presentation and discussion of the findings with stakeholders.

Contributions of the members of the United Nations Inter-agency Task Force, particularly Alexey Kulikov, Nadia Putoud and Ilaria Corazza in planning and implementation of the project are highly acknowledged.

This document was produced with financial support of the European Union. Its contents are the sole responsibility of the author and do not necessarily reflect the views of the European Union.

Abbreviations

CVD	cardiovascular disease
FCTC	WHO Framework Convention on Tobacco Control
GDP	gross domestic product
ICA	institutional context analysis
IQOS	I Quit Ordinary Smoking
MoIDPLHSA	Ministry of Internally Displaced Persons from Occupied Territories, Labour, Health and Social Affairs
MPOWER	monitor tobacco use and prevention policies; protect people from tobacco smoke; offer help to quit tobacco use; warn people about the dangers of tobacco; enforce bans on tobacco advertising, promotion and sponsorship; raise taxes on tobacco (WHO package)
NCD	noncommunicable disease
NCDC	National Center for Disease Control and Public Health
PHC	primary health care
ROI	return on investment
STEPS	WHO STEPwise approach to surveillance
SDGs	Sustainable Development Goals
UNICEF	The United Nations International Children's Emergency Fund
UNFPA	The United Nations Population Fund

Executive summary

Noncommunicable diseases (NCDs) such as cardiovascular disease (CVD), chronic respiratory disease, cancer and diabetes and their risk factors (tobacco use, use of alcohol, unhealthy diet and physical inactivity) are increasing challenges to health and development in Georgia, where 93% of deaths are attributable to NCDs. For Georgians, the probability of premature mortality from NCDs is one in four. Furthermore, nearly 93% of Georgia's population has at least one risk factor for NCDs; and according to 2016 data Georgia had one of the highest smoking rates in the WHO European Region (31%). The burden of NCDs is unequal, as men tend to experience poorer health outcomes and have unhealthier lifestyles than women.

While Georgia has several policy and legislative frameworks designed to combat NCDs, most of the initiatives tends to be the responsibility of the Ministry of Displaced Persons from Occupied Territories, Labour, Health and Social Affairs (MoIDPLHSA), resulting in a siloed approach to these complex health issues. A review of current WHO-recommended NCD interventions in the country showed gaps in implementation. This report highlights areas that should be strengthened to achieve full coverage.

Premature morbidity and mortality due to NCDs limit Georgia's socioeconomic development by reducing productivity and inflating the costs of health and social care. In 2019, the Government spent an estimated 361 million lari (US$ 129 million) on the four major NCDs, representing over 25% of total health-care expenditure.

The analyses for this report found that NCDs reduce Georgia's economic output and discusses potential responses, including their relative returns on investment (ROIs) and political feasibility. The three economic analyses performed were further supplemented by an ICA that provided crucial insight into policy implementation in the country. An analysis of economic burden highlighted the direct and indirect costs of NCDs and demonstrated the negative impact of NCDs on the economy. Direct costs included government health-care costs for treating the four major NCDs, as well as disability payments. Indirect costs were calculated as the costs of absenteeism, presenteeism and economic losses due to premature deaths. The current economic cost of NCDs to Georgia's economy is 3 billion lari per year (US$ 1 billion), equivalent to 6.16% of the country's annual GDP.

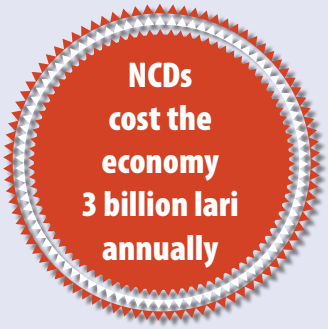
The costs of implementing a set of NCD prevention interventions were also analysed, including packages for reducing use of tobacco and alcohol use, decreasing salt consumption, increasing physical activity and introducing clinical interventions for CVD and diabetes. In an analysis of ROIs, the cost of implementing each intervention was compared with the estimated health gains and economic returns over a 5- and over a 15-year period. It was found that implementation of the NCD packages would improve health and economic outcomes, and many of them are cost–effective. Policy packages to reduce the consumption of tobacco, alcohol and salt and to increase physical activity were estimated to have a total cost of 38 million lari, 165 million lari, 82 million lari and 59 million lari, respectively, over the 15-year scaling-up period. The clinical interventions for CVD and diabetes were the most expensive options, costing a total of about 1.6 billion lari over 15 years, but offering significant health benefits.

The salt reduction package was found to have the highest ROI after 15 years (14.7). This intervention is also politically feasible and would provide the highest health benefits. The interventions to reduce use of tobacco and alcohol also had relatively high ROIs, and while tobaco interventions are feasible, alcohol interventions may meet political and cultural barriers. The ROI for the physical activity package is lower but with limited health benefits. Clinical interventions for CVD and diabetes had the lowest ROIs, < 1 lari per 1 lari invested, over 5 and 15 years.

An institutional context analysis (ICA) was conducted to identify relevant institutions and stakeholders and political opportunities, engage relevant actors and mobilize coalitions of support. The analysis showed a series of actionable "entry points" that are feasible and effective for change within the political and institutional context. Stakeholders identified salt reduction as an area likely to gain political buy-in, a strong foundation for implementation of new tobacco control measures and strengthening of existing measures, opportunities to use introduction of the new NCD strategy and the new PHC strategy to generate political momentum for NCD prevention and control and cross-sectoral dialogue to unite stakeholders for NCD prevention and control. The long-term success of the interventions will require several whole-system inputs and a shift from vertical, top–down interventions to more horizontal and bottom–up approaches. Entry points that will likely face barriers to implementation in Georgia are those related to alcohol use and interventions to increase physical activity.

Main findings

The cost of NCDs



The current economic cost of NCDs to Georgia's economy is 3 billion lari per year (US$ 1 billion), equivalent to 6.16% of the country's annual gross domestic product (GDP). Premature morbidity and mortality due to NCDs limit Georgia's socioeconomic development by reducing productivity and inflating the costs of health and social care. In 2019, the Government spent an estimated 361 million lari (US$ 129 million) on the four major NCDs, representing over 25% of total health-care expenditure.

93% of deaths are attributable to NCDs. For Georgians, the probability of premature mortality from NCDs is one in four.

Georgia has one of the highest smoking rates in the WHO European Region (31%). The burden of NCDs is unequal, as men tend to experience poorer health outcomes and have unhealthier lifestyles than women.

Why invest in NCD best-buy packages

By acting now, the Government of Georgia can reduce the burden of NCDs. The investment case findings demonstrate that investing in proven policy and clinical packages would, over the next 15 years:

Provide economic benefits (2.7 billion lari or 3.3 billion lari with social value of health included) that significantly outweigh the costs (1.9 billion lari) of implementation over a 15-year period. Policy packages to reduce the consumption of tobacco, alcohol and salt and to increase physical activity were estimated to have a total cost of 38 million lari, 65 million lari, 82 million lari and 59 million lari, respectively, over the 15-year scaling-up period. The clinical interventions for CVD and diabetes were the most expensive options, costing a total of about 1.6 billion lari over 15 years, but offering significant health benefits.

Save over 28 000 lives and reduce the incidence of disease. Because of the nature of the calculations, the greatest social benefits are those of the packages with which the most healthy life-years are gained: salt reduction and clinical interventions for CVD and diabetes.

Georgia

Case for investment in the prevention and control of noncommunicable diseases

6.16% of GDP

Current NCDs burden

3 billion lari

lost per year

1.8 billion lari

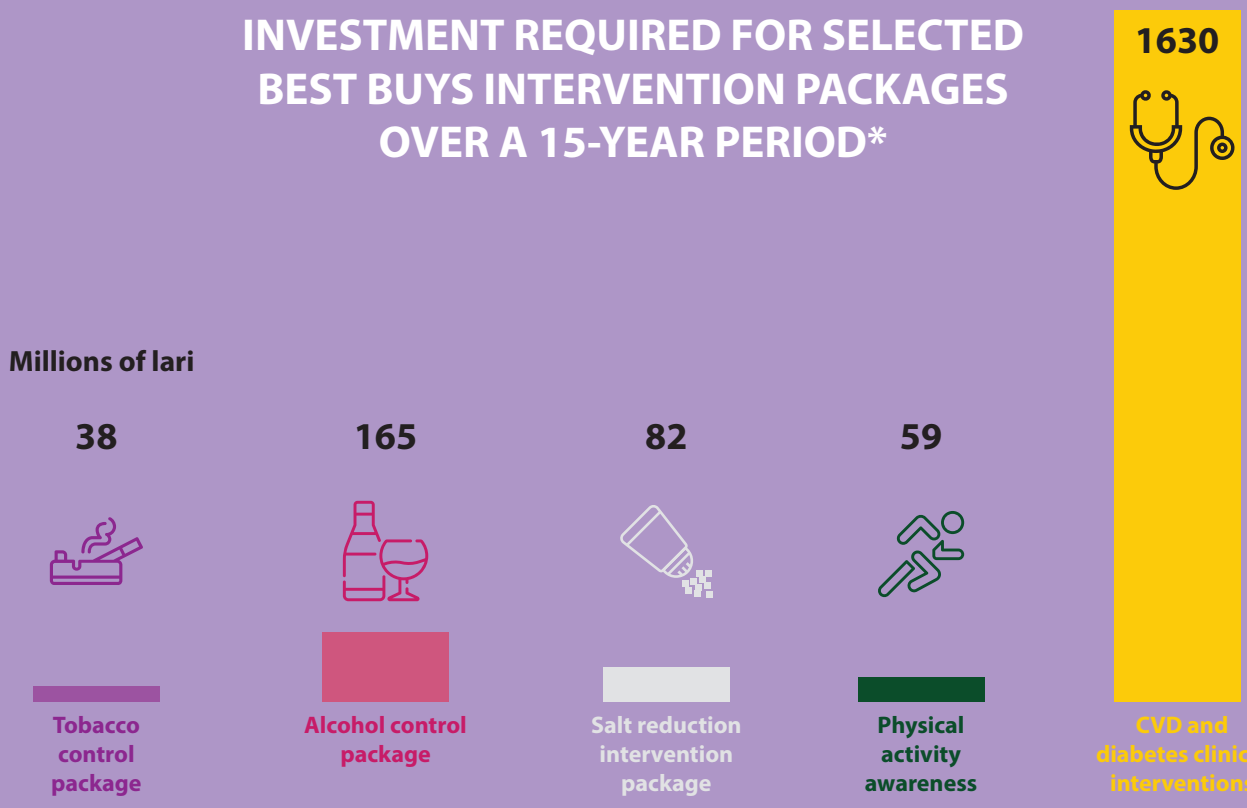
indirect cost due to loss of workforce and reduced productivity

25% probability

of dying before the age of 70 from NCDs

2 billion lari

INVESTMENT REQUIRED FOR SELECTED BEST BUYS INTERVENTION PACKAGES OVER A 15-YEAR PERIOD*



* This is the total cost and not the incremental costs only. It assumes that none of the costs are already paid.

RETURN ON INVESTMENT OVER A 15-YEAR PERIOD

	Return on investment**	Lives saved	Millions of lari in productivity benefits**
Tobacco control package	12.2	2700	386
Alcohol control package	7.2	6900	632
Salt reduction intervention package	19.6	9820	1320
Physical activity awareness	1.8	576	83
CVD and diabetes clinical interventions	0.7	8333	867

** Numbers include social value of health.

1

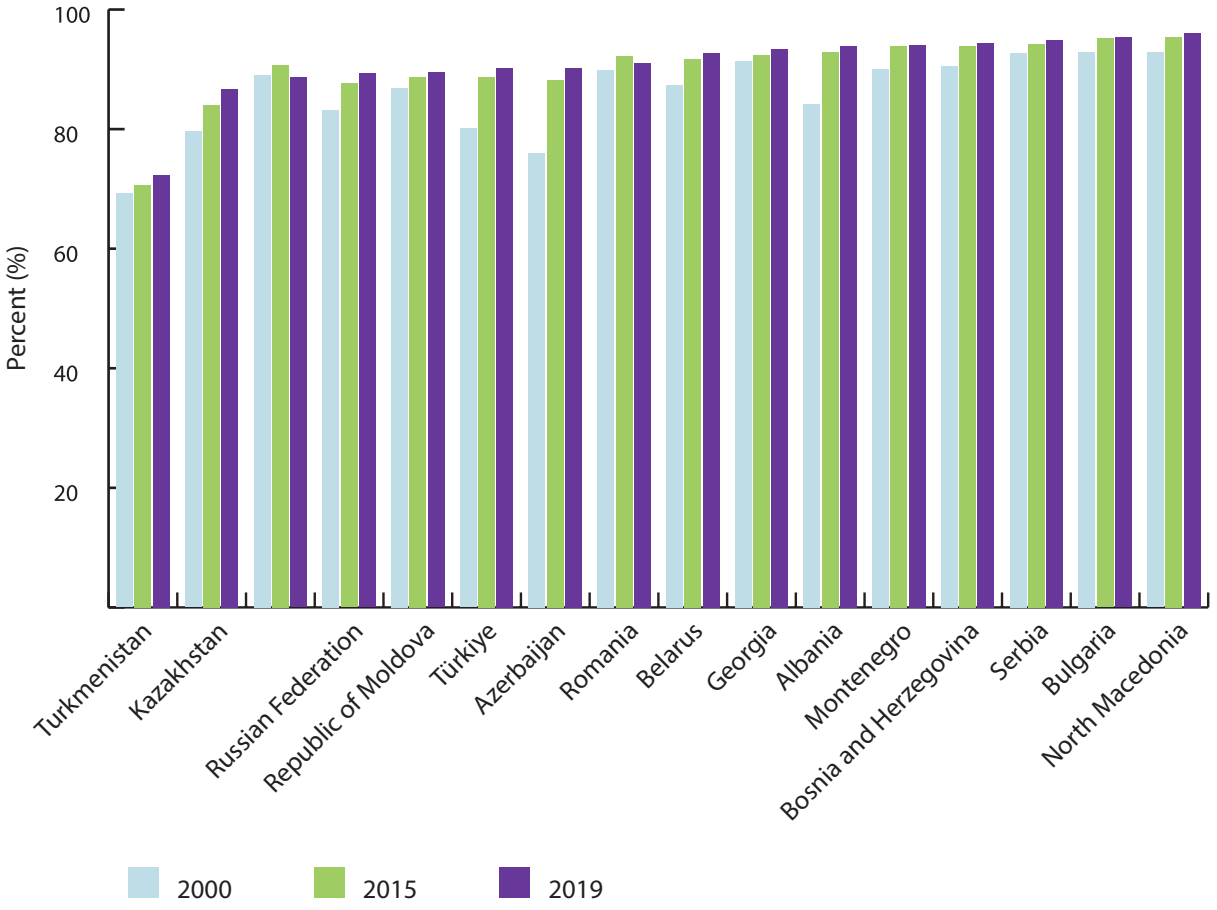
Introduction

1. Introduction

Burden of noncommunicable diseases

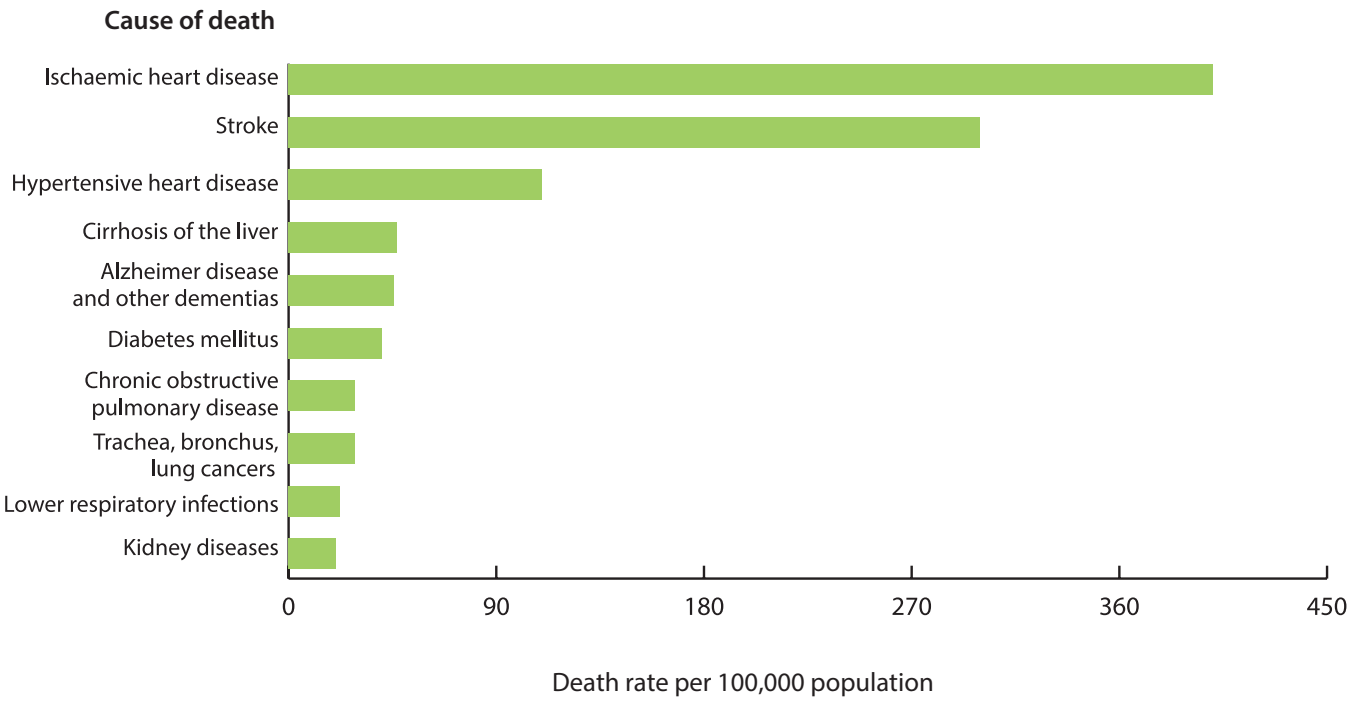
NCDs have a large, increasing impact on health in Georgia. Data from WHO STEPwise (STEPS) surveys show that 92.4% of the population have at least one relevant behavioural risk factor, such as smoking or alcohol consumption *(1)*. Thus, approximately half of all adults over 45 years have a high risk of developing one of four major NCDs (cardiovascular disease (CVD), chronic respiratory disease, cancer and diabetes) *(1)*. In 2019, 93% of deaths in Georgia (Fig. 1.), and the 10 leading causes of death (Fig. 2.) were NCD-related. The toll of NCDs has grown steadily in recent decades, and the associated risk of premature mortality from NCDs in Georgia is 25% *(1)*. Among men, this rises to 35% *(1)*. These contribute to a higher mortality rate due to NCDs than in other European countries (964 per 100 000) *(3)*.

Fig. 1. Rates of all deaths attributable to NCDs in selected upper–middle-income countries in Europe and central Asia, 2000–2019



Source: *(3)*

Fig. 2. Ten most prevalent causes of death in Georgia, 2020



Source: *(4)*

The NCD burden is borne unevenly in the population. Behavioural risk factors (tobacco use, alcohol use, poor diet and lack of physical activity) are more common among men than women and more common in urban than in rural areas *(2)*. Women and people of lower socioeconomic status have higher rates of obesity, high blood pressure, high glucose and high cholesterol *(2)*. Migrants are not only at a higher risk of NCDs but also face more barriers to accessing NCD prevention and treatment services than the general population *(2)*. Furthermore, the 21.3% of Georgians who live under the national poverty line are at greater risk for NCDs and have poorer access to health care *(5, 6)*. Furthermore, despite the introduction in Georgia of universal health coverage in 2013, the health system depends on high out-of-pocket expenditure, creating a financial burden for many *(7)*.

Economic toll of NCDs

NCDs pose a major challenge to Georgia's economic development, as they reduce labour force participation and – as a result – household income, overall productivity and national economic output *(8)*. In particular, the morbidity rate from NCDs in the population of working age leads to both absenteeism (more days away from work) and presenteeism (reduced productivity at work), and rising NCD-related premature mortality may remove people fully from the labour market *(9)*. These factors undermine Georgia's economic development and its ability to achieve the SDGs. In general, increased health-care spending on preventable NCDs diverts limited resources from more effective uses in the health-care sector and also restricts social and economic development. Certainly, success in achieving SDG target 3.4 – reducing premature mortality from NCDs by one third – is compromised *(7, 8)*. Prevention and control of NCDs should therefore be a strategic

priority for Georgia. Appropriate investment can dramatically reduce the NCD-related economic burden and generate impressive short- and long-term economic dividends, which could nurture a healthy, more equitable society.

Components of the case for investment

This investment case is based on economic and political analyses of interventions to prevent and control NCDs in Georgia. The interventions considered are based closely on the policy options proposed as WHO "best buys" – a list of cost–effective interventions maintained and updated since 2013 *(10)*.

This report comprises estimates of the current economic burden of NCDs, identification and costs of the priorities for actions, quantification of the benefits of those actions and calculation of the return on investment of each intervention.

Photo credit: © UNDP / David Khizanishvili, Licence CC BY-NC-SA 2.0.

Situation analysis

2

2. Situation analysis: NCDs and risk factors

A web of behavioural, metabolic, environmental, socio-demographic and societal risk factors drives Georgia's growing NCD burden. The behavioural and metabolic risks are those that are most amenable to change and are therefore emphasized in this analysis. In Georgia, NCD-related morbidity and mortality are increasingly associated with metabolic risks (body mass index, blood lipid levels, high blood pressure) and behavioural factors (tobacco use, alcohol consumption, physical inactivity and high dietary salt intake). As noted above, in 2016, 92.4% of the population had at least one of those risk factors (94.3% for men, 90.7% for women) *(2)*. The average prevalence of three or more such risk factors was 36.1% and was considerably higher for men (45.4%) than for women (27.6%) *(2)*.

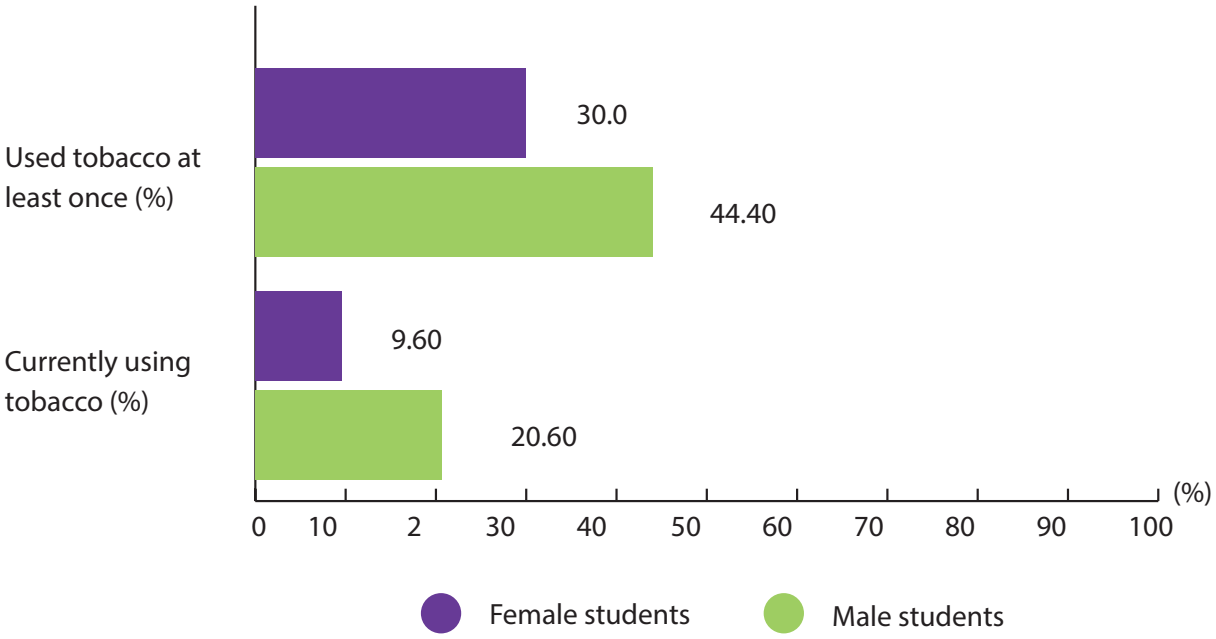
In 2016, 48.6% of Georgians aged ≥ 45 years were at high risk for NCDs *(11)*, which is consistent with Georgia's high age-standardized rate of premature mortality. In 2019, the risk was 695.4 per 100 000, well over the rate for the WHO European Region (427.1 per 100 000*) (12)*. Life expectancy in Georgia is currently markedly lower (72.28 years) than the average for the WHO European Region (78.24 years) *(12)*.

Tobacco

Georgia has among the highest rates of tobacco smoking in the WHO European Region. In 2016, 31% of the population aged 18–64 smoked, and 28% of all adults smoked daily. The gender difference is marked, with 57% of men and only 7% of women who smoke *(2)*.

Tobacco consumption by adolescents (smoking and in other forms) is also a major concern. The Global Youth Tobacco Survey in 2017 *(13)* found that 15.4% of Georgians aged 13–15 years were current tobacco users, and 37.4% had used tobacco at least once. As is seen for adults, the rates for boys were higher than those for girls, but more young girls used tobacco than older ones (Fig. 3.) *(13, 14)*. The survey also found that only about 1 in 10 of people aged 13–15 in Georgia were aware that tobacco is addictive, the lowest figure in the WHO European Region *(13)*.

Fig. 3. Tobacco use among young people aged 13–15 years in Georgia



Source: *(13)*

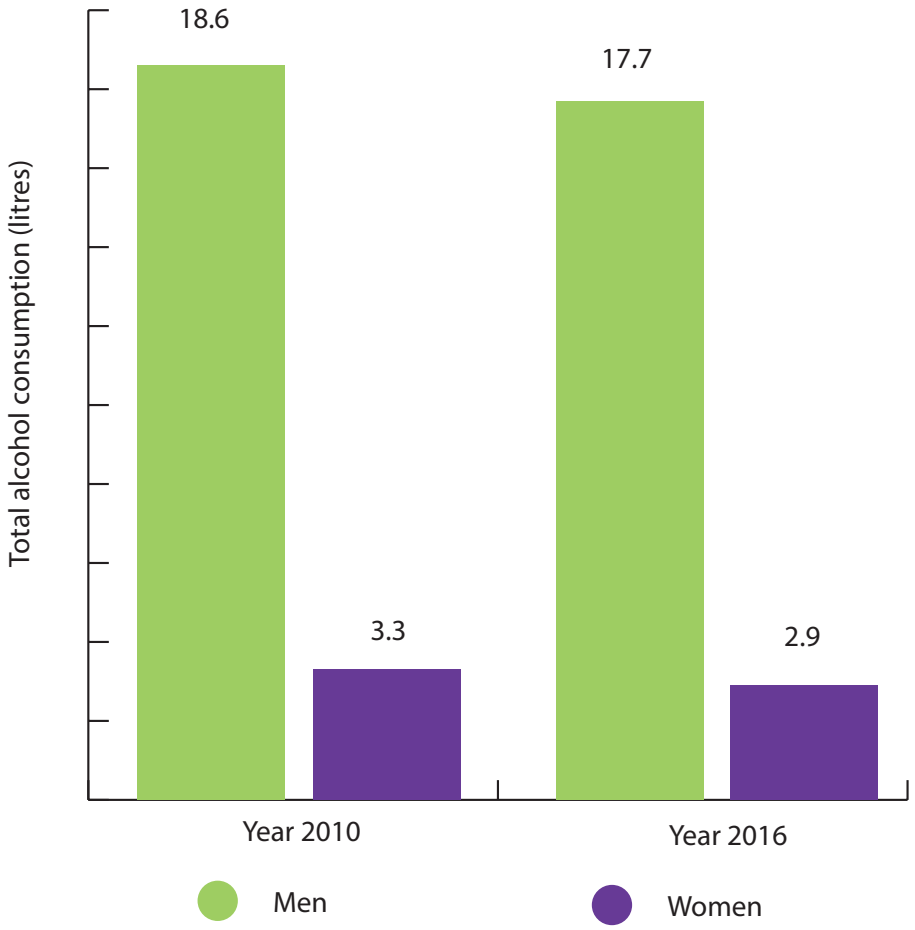
e-Cigarette consumption in this group is another emerging, widespread public health concern in Georgia, use having increased from 5.7% of the country's young people in 2014 to 13.2% in 2017 *(13)*. Warnings have been issued that the tobacco industry is actively lobbying for use of e-cigarettes and other heated tobacco products in order to increase their profits and preserve and expand the markets, irrespective of the health consequences. In addition, 43% of Georgian adults are exposed to second-hand smoke at home and 15.8% at work, and 43.2% of children and adolescents are exposed at home and 58.6% inside enclosed public spaces *(1, 14)*.

The collective toll of use of and exposure to tobacco in Georgia is estimated to be 11 400 deaths annually, of which 2100 are attributable to second-hand smoke *(15)*. This underlines the urgency of immediate investment in four priorities of the WHO Framework Convention on Tobacco Control (WHO FCTC): higher tobacco taxes, smoke-free policies, bans on advertisements and appropriate packaging and labelling policies. If Georgia took those steps, it could save more than 53 000 lives and avert 3.6 billion lari in costs and economic losses by 2033 *(14, 16)*.

Alcohol

Alcohol, particularly wine, is integral to Georgian culture and religion. Georgia ranks 67th among 200 countries in terms of alcohol use, although total per capita consumption decreased slightly between 2020 and 2016, from 10.4 L to 9.8 L. This fall reflects the pattern across the WHO European Region *(17)*. There is also a gender difference in alcohol consumption, with Georgian men drinking considerably more than women (Fig. 4.).

Fig. 4. Total alcohol consumption (L) in Georgia by gender



Sources: references *(2)* and *(18)*

The 2016 STEPS survey found a marked gender difference in heavy episodic (binge) drinking. On average, 35.8% of men and 2.6% of women engaged in such behaviour, for an adult population average of 18.3%. The health consequences are accordingly consistently higher among males, of whom 8.8% have alcohol use disorders (including dependence and harmful use), than among women (1.0%) *(2)*. The age-standardized rates of death from liver cirrhosis attributed to alcohol use were 64.4 per 100 000 for men and 12.7 per 100 000 for women in 2016 *(19)*.

Physical inactivity

Physical activity rates are low in Georgia. In the 2016 STEPS survey, 17.4% of respondents did not reach a healthy level (defined as ≥ 150 min moderate-intensity activity per week or equivalent), and the result was worse than in 2010 *(20)*. Few women (8.2%) engage regularly in vigorous physical activity. Barriers to women engaging in physical activity include stereotyping, stigmatization of overweight and an inequitable burden of unpaid care *(20)*. A 2019 National Centre for Disease Control survey of young people found that only 35% of boys and 17% of girls engaged in daily physical activity. Many local governments cite insufficient free sports clubs, lack of sports infrastructure and inadequate promotion of healthy lifestyles in schools as barriers to greater participation *(20)*.

Diet

Georgia is lagging in achieving the NCD-related global nutrition targets for 2025 *(21)*. WHO currently recommends that salt consumption not exceed 5 g/day, whereas, in Georgia, the average intake is about 8.5 g, men consuming 2.0 g/day more than women *(2)*. Processed foods high in salt are eaten by 14.3% of the population. Once more, men are at greater risk, as 18.9% eat such foods as compared with 10.1% of women *(1, 2)*. A low rate of fruit and vegetable consumption also contributes to the risk for NCDs in Georgia, where only 63.0% of the population eats the recommended five daily servings of fruit and/or vegetables *(1)*.

Metabolic risk factors

Metabolic changes associated with four risk factors increase the likelihood of NCDs: elevated blood pressure, overweight or obesity, a high blood glucose level (hyperglycaemia) and high levels of fat in the blood (hyperlipidaemia). Between 2010 and 2016, the population prevalence of excess weight and high cholesterol levels increased among all adults *(18)*. Moreover, the percentages of men and women with these problems increase with age *(2)*; the increase appears to be faster in women, so that older women have these risks more often than men. This may, however, reflect less frequent measurement of these factors among men *(2)*. Table 1 summarizes the percentages of the population, by gender, with each metabolic risk factor.

Table 1. Metabolic risk factors by gender

Metabolic risk factor	Total (%)	Men (%)	Women (%)
Overweight (BMI, 25.0–29.9 kg/m^2)	64.6	65.5	63.8
Obese (BMI, ≥ 30.0 kg/m^2)	33.2	30.2	36.0
Raised blood pressure (currently on medication)	37.7	38.6	36.9
Raised blood pressure (not currently on medication)	55.4	64.2	47.2
Raised cholesterol or on medication for raised cholesterol	27.7	21.9	33.0
Raised blood sugar[a]	4.5	4.7	4.3

Notes: BMI, body mass index
[a] Percentage with raised fasting blood glucose as defined below or currently on medication for raised blood glucose
Source: *(11)*

The high prevalence of metabolic risks partly explains the contribution of CVDs to deaths in Georgia in 2019. High values for any one of these metrics increase the risk of a cardiovascular event, and unhealthy levels of several factors increase the risk further. The best estimate is that 28.8% of Georgians aged 40–60 years have a 30% probability of experiencing a cardiovascular event within 10 years *(1)*.

Air pollution

Georgia has a high mortality rate from respiratory and cardiovascular diseases associated with exposure to outdoor and indoor air pollution. The two main causes are transport – which accounts for 79% of carbon monoxide emissions – and industry – responsible for 64% of solid airborne particles *(22)*.

Legislation and policies

3. Legislation and policies for reducing the burden of noncommunicable diseases

The right to health and to the prevention and control of NCDs are embedded in Georgia's legislative framework.

The Constitution of Georgia provides for the right to:	
	health insurance as a means of affordable medical care
	a healthy environment in which to live
	equal socio-economic development of care
	sports and physical education for children and young people
	social equality of citizens
The Georgian Law on Health Care	
	Article 3: makes the state responsible for physical and mental health protection; public health; maintenance and restoration of disease; prevention and control; and promotion and enablement of a healthy environment and lifestyle.
	Article 4: guarantees every citizen equal access to universal health care, the possibility of a healthy lifestyle and cooperation with international health organizations.
The Georgian Law on Public Health	
	promotes health and healthy lifestyles, including avoidance of NCDs
	obliges legal entities not to take actions that would increase the prevalence of NCDs or their risk factors
	requires the MoIDPLHSA to develop NCD-related policies
	makes the National Centre for Disease Control and Public Health responsible for implementation of health promotion policies in Georgia, including support for local implementation
Code of Local Government	
	Article 16: establishes authority of local government in health care, including NCD prevention and control.
Law of Georgia on Civil Acts	
	mandates registration of causes of death (relevant for data on mortality due to NCDs)
Law of Georgia on Official Statistics	
	requires provision of independent, objective, reliable statistics consistent with United Nations fundamental principles and the European Statistics Code of Practice
Law of Georgia on Budgetary System and Budgetary Powers	
	Article 23: mandates the central Georgian State Budget to consolidate a single State fund for health care, social welfare and medical insurance.

In addition to formal legislation, Georgia has addressed NCDs for some time. During the past decade, the Government has strengthened NCD surveillance through two national WHO STEPwise surveys – in 2010 and 2016 – to monitor trends in NCD mortality, morbidity and risk *(23)*. Georgia has also conducted various other NCD-related surveys, including the Child Obesity Surveillance Initiative and the Georgia Reproductive Health Survey.

In 2017, the Government launched its first *National Strategy and Action Plan for Non-communicable Disease Prevention and Control (2017–2020)*, which addressed the health and socio-economic burden of NCDs through multisectoral cooperation *(24)*. The strategy addressed the four leading NCDs (CVD, chronic respiratory disease, cancers and diabetes) and the related behavioural and metabolic risk factors. After expiry of this plan, a further *National Strategy and Action Plan for NCD Prevention and Control (2022-2026)* was developed. Like its predecessor, the new document draws on current international best practice. The strategic objectives for 2022–2026, which echo and build on those in the earlier document, include:

1. Strengthen international cooperation to improve NCD prevention and management.
2. Strengthen national capacity to develop, implement and evaluate NCD prevention and control measures.
3. Develop a system for monitoring, surveillance and evaluation of NCDs and their determinants in order to facilitate needs assessment and evidence-based decision-making.
4. Promote healthy choices to reduce the impact of modifiable NCD risk factors, their social determinants and infectious agents.
5. Promote screening for NCDs and biological risk factors to improve early detection.
6. Ensure effective NCD management.
7. Promote mental health.
8. Improve financial access to NCD management services and treatment.

The Georgian Government recognizes the importance of progress in addressing NCDs in attaining the SDGs by 2030, including reducing the current rate of premature deaths due to NCDs by one third *(14, 26)*.

Despite this substantial work, more action is necessary to reverse the growing toll of NCDs on morbidity and mortality in Georgia. Further steps would therefore be consistent with the Georgian State's legal responsibilities and its long-term policy direction.

4

Current policies and interventions

4. Current policies and interventions

Tobacco

Georgia's actions to ensure full implementation of its commitments to the WHO FCTC show that it has given high priority to tobacco control. A new National Tobacco Control Law in 2017 focused on reducing demand by banning indoor smoking, implementing labelling and packaging standards, prohibiting advertising sponsorship and promotion, and regulating heated tobacco and e-cigarettes *(15, 27)*. Lengthy introduction of certain measures has limited their impact. For example, enforcement of plain packaging will come into effect only in 2023, and hotels were exempt from an indoor smoking ban until 2020 *(27)*.

The latest WHO FCTC Global Progress Report *(29)*, however, shows that Georgia has further enforced tobacco control legislation, including creation of a Council of Health Promotion and Disease Prevention and Advisory Board within the Georgian Parliament's Committee on Health Care and Social Issues. The progress also includes increasing the tax share of the retail price of tobacco products to at least 71% by 2020, in line with the European Union (EU) directive on taxation of tobacco products (which Georgia is committed to adopt as part of its EU Association Agreement). This tax share, however, falls short of WHO best practice that the tax share of tobacco products represent at least 75% of the retail price *(29)*. The current total tax on tobacco products is currently about half that in the EU directive (€90 per 1000 cigarettes). Moreover, the prices of some tobacco products, such as roll-your-own and e-cigarettes, remain low.

There is sufficient funding to implement the law effectively and to monitor compliance with tobacco control legislation and policy. Tobacco control experts emphasize the importance of continued financial sustainability to maintain strong compliance with legislation in order to achieve the substantial attendant health benefits. The most concerning gap in current Georgian tobacco control is the Government's failure to adopt legislation to enforce the provisions of the 2018 law to shield tobacco control policy and legislation from industry interference and lobbying. Tobacco control policy therefore remains vulnerable to industry interference, which has intensified since the new legislation.

Overall, Georgia has made substantial progress. Data for 2020 indicate that implementation of the tobacco control policy has resulted in a decrease in the prevalence of smoking of 10%, of cigarette consumption by 15% and of tobacco-related air pollution in public places by 90% *(6, 27)*. In recognition of this progress, the Chairman of the Georgian Parliament committee on health care, Dr Kaki Zoidze, received the WHO Special Award for Contributions to Global Tobacco Epidemic Control in 2018; in 2022, the honour was attributed to the Georgian National Centre of Disease Control.

Alcohol

Georgia has no strong public health programme to address alcohol use and no dedicated national strategy or action plan. Georgia did, however, support the European Action Plan to Reduce the Harmful Use of Alcohol 2012–2020 and began youth awareness activities on this problem *(6)*. The State Programme of Health Promotion has funding for anti-alcohol communication, although this is subject to change. Specific alcohol-related policies include:

- an excise tax on beer, wine and spirits;
- a national legal minimum age (18 years) for sales of all alcoholic beverages;
- various restrictions on sales of alcoholic beverages on and off premises;
- a national maximum legal blood alcohol limit of 0.03% when driving a vehicle;
- regulations on alcohol sponsorship and sales promotion;
- mandatory health warning labels on alcohol advertisements (but not on containers); and
- a national monitoring system for alcohol-related harm.

Physical activity

As noted above, in Georgia's Constitution, the State is responsible for promoting and enabling a healthy life-style for the population. Nevertheless, the country has no national plan for physical activity, no recommendations for individual physical activity and no policy for screening underactivity by physicians. Despite initiatives for multimodal streets that prioritize walking and cycling over use of private cars, the infrastructure remains weak. Facilities are being created in schools for sport and physical activity; however, many still lack the necessary space. The State has often been criticized for focusing on the development of professional sports and neglecting physical activities for communities *(20)*.

General barriers to physical activity in the population include financial constraints, lack of time and poor infrastructure. Georgia should have an interdisciplinary, multi-sectoral policy to promote physical activity *(20)*.

High consumption of salt, trans-fats and sugar

As noted earlier, Georgia is making insufficient progress towards NCD global nutrition targets in 2025, which include a 25% relative reduction in the prevalence of raised blood pressure, halting a rise in the prevalence of obesity and diabetes and a 30% relative reduction in mean population intake of salt *(18, 21)*. Only a few policies related to food and diet have been introduced, most of which, however, are for the provision of information to consumers. There is no tax on sugar-sweetened beverages and no effective policy to limit intake of saturated fatty acids *(21)*.

Primary health care

Structural challenges in Georgia's health system, particularly for PHC, limit sustainable improvements in the population's health. The existing services are fragmented, lack skilled personnel and lead to high out-of-pocket spending; the system therefore cannot manage the NCD burden efficiently *(30)*. Funding for PHC, at 0.3% of GDP in 2018, is among the lowest in the WHO European Region. PHC plays a critical role in the prevention and control of NCDs, and Georgia has committed itself to phased reform *(30)*. The key steps are:

- revision of the PHC benefits package, giving priority to comprehensive NCD management;
- strengthening the provision of PHC to extend services to the entire population;
- assessing individual risk and management of chronic diseases (including diabetes, CVD, hypertension, chronic obstructive pulmonary disease, asthma and mental illness) and using a holistic, people-centred approach, with education and counselling; and
- investing in telehealth and telemedicine to increase and improve service delivery in rural and otherwise underserved communities.

The Georgian Ministry of Health launched the State Programme for Provision of Medications for Chronic Disease in 2017, which covers CVD, chronic lung disease, type-II diabetes, thyroid diseases, epilepsy and Parkinson disease. The beneficiaries include:

- people registered in the Unified Database of Socially Vulnerable Families with a rating score ≤100 000;
- citizens who have reached retirement age;
- people with a disability; and
- people with Parkinson disease or epilepsy.

For diabetes in particular, the Government, supported by the WHO Regional Office for Europe and co-funded by the Danish Government, seeks to improve access of affected individuals to high-quality PHC *(31)*. Moreover, the World Diabetes Foundation has underwritten projects to improve prevention and care in six Georgian regions *(32)*, with the following objectives:

- development of a national diabetes registry;
- training for ophthalmologists, endocrinologists and general practitioners in modern approaches to diagnosis and treatment of diabetic retinopathy; and
- strengthening the organizational capacity of diabetes patient organizations to ensure their sustainability.

Air pollution

The Third National Environmental Action Programme 2017–2021 seeks to meet SDG environmental targets. The goal of the plan is to reduce the high levels of air pollution in the country, which will be complex. The strategies implemented to date include installing automatic monitoring stations in Tbilisi, quarterly passive air sampling in major cities, State controls on fuel quality, new tax rates to encourage renovation of existing vehicles and a switch from diesel buses to ones powered by compressed natural gas *(22)*.

5

Political economic drivers

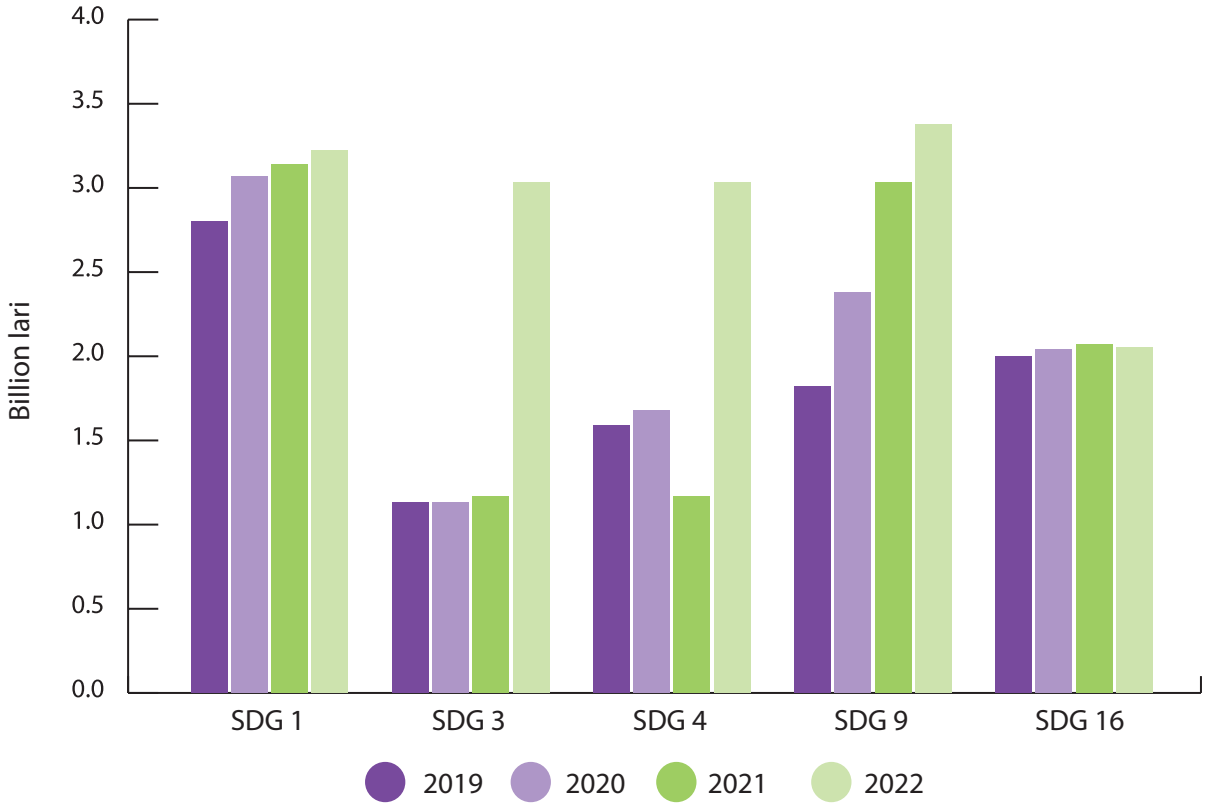
5. Political economic drivers

Georgia has long sought membership in the European Union, despite rejection of immediate membership candidate status in June 2022. Georgia's responsibilities within its EU application are listed in the 2016 Georgia–EU Association Agreement *(33)*. They include implementation of the WHO FCTC and alignment of the country's national tobacco taxation plans with EU and WHO FCTC goals, including adoption of the EU's Tobacco Products Directive, which states Member State obligations and specifies limits on the sale and merchandizing of tobacco and tobacco-related products *(34)*.

A further international obligation relevant to NCDs is the country's 2015 commitment to the SDGs. Cross-analysis of 37 Georgian national strategies with SDG targets showed a synergy of 93% *(35)*. The NCD-related policies were considered to indicate good progress but to be vulnerable and liable to bottlenecks *(6, 36)*.

To date, SDG 3 (Good health and well-being) has been poorly implemented by national agencies and institutions *(6)*. There is one central policy document, for which the MoIDPLHSA is largely responsible, rather than the multi-sectoral approach that is necessary to achieve such a complex target *(6, 36)*. Nevertheless, the budget for achieving SDG 3 (Fig. 5.) was increased substantially in 2022 *(6)*, and actions to achieve the target have been included into the new Health Care Strategy 2022–2030.

Fig. 5. Budget allocation for achieving the SDGs in Georgia (billion lari) between 2019 and 2022



Source: *(6)*

Photo credit: © Tamar Kobakhidze / World Bank. Licence CC BY-NC-ND 2.0.

6

Challenges and barriers

6. Challenges and barriers

A central challenge to NCD control and prevention policies in Georgia is opposition from industry. The tobacco industry, for example, has actively lobbied against recent initiatives such as increases in excise taxes. Manufacturers are marketing novel tobacco and nicotine products (smokeless tobacco, e-cigarettes and heated tobacco products). Stakeholders perceive the illicit tobacco trade as a substantial challenge for tobacco control in the country.

Food industry lobbying also limits reductions in consumption of high-fat, -salt and -sugar foods in Georgia. Private health-care and pharmaceutical companies show little interest in the prevention of NCDs but rather encourage patients to seek private treatment in secondary and tertiary establishments. Lack of regulation of pharmaceuticals allows that industry to benefit from over-prescription of medications.

Similar to many other countries Georgia voters generally react negatively to taxes or price increases on products such as tobacco and alcohol, which is considered to be due to poor understanding of the benefits of excise taxes for NCD prevention. Government ministries often fail to communicate this message to the general public and, as a result, the public does not see NCDs as a priority. Although ministries have discussed taxes on foods high in fat, salt and sugar, stakeholders stated that they would struggle to win over the general public and considered that advocacy campaigns – similar to successful ones for tobacco control but on the dangers to health of high fat, salt and sugary food products – should be pursued. The resulting public support for actions to prevent NCDs might create a basis for ministries to change policies.

Health-care personnel could also improve public awareness. Currently, mandatory training for doctors ceases after medical school, and they are therefore unable to provide patients with the most up-to-date information on NCDs. Moreover, the limited time that providers spend with each patient in PHC restricts explanations of NCD prevention and screening. The current budgets are insufficient to ensure that health-care professionals have the time, skills and knowledge to contribute to NCD prevention. Budgetary constraints were also highlighted as an impediment to educational campaigns in schools.

While there is a legal framework for health promotion, NCD-reduction policies appear to be insufficient *(24)*. For example, population surveys are not conducted regularly to monitor and evaluate the effectiveness of new policies *(37)*. Weakness in this area has been attributed partly to lack of multisectoral collaboration, responsibility for all aspects except taxation being that of the MoIDPLHSA rather than the whole of government. Similarly, there are no formal engagements with civil society or the private sector to improve decision-making *(36)*. Although interventions focus on changing individual behaviour, budgetary constraints limit their effectiveness, including school campaigns. Meanwhile, the larger structural causes of NCDs – socioeconomic disadvantage, globalization, gender, geographical location, social exclusion and disempowerment – are ignored *(5, 38)*. Georgia should recognize that change is required at system level rather than a "siloed" approach to individual risk factors.

Photo credit: © World Bank. License CC BY-NC-ND 2.0.

Methods

7. Methods

A multiagency, multidisciplinary team consisting of staff from the WHO Georgia Country Office, the Ministry of Labour, Health and Social Affairs, the National Centre for Disease Control and Public Health, the Georgia Institute of Public Affairs and the NCD Alliance undertook initial data collection and analysis in 2021–2022 for a three-tier economic investment case for NCDs, complemented by an institutional context analysis (ICA). The team included health economists and experts in social development and public health. The methods and economic models used at various stages of the economic analysis were:

- calculation of the direct and indirect economic costs of the four main NCDs (CVD, chronic respiratory disease, cancer and diabetes);
- calculation of the costs of potential policy and clinical interventions; and
- analysis of ROIs.

The extensive ICA enhances the results of the economic analysis by accounting for the political context, strategies for building an effective coalition for support and identifying feasible policies. The ICA is a critical part of the broader investment case, as it bridges the gap between policy ideation and implementation. The methods and terminology used in the investment case are described below. For more details, see the Guidance note for NCD investment cases *(39)*.

The economic burden of noncommunicable diseases

Direct costs

Direct costs are those incurred in health and disability payment systems, in this case for CVD, chronic respiratory disease, cancers and diabetes mellitus. The costs include payments by the Government and private insurance and out-of-pocket spending. They cover items such as medical staff salaries, drugs, equipment and procedures. The health system costs from the Georgia national health account are listed in Table 2.

Table 2. Information from the Georgia national health account on direct costs for the main four NCDs (in lari)

	Government expenditure		Private insurance		Out-of-pocket spending		Total
Direct cost	***Medical expenses***	***Drug expenses***	***Medical expenses***	***Drug expenses***	***Medical expenses***	***Drug expenses***	
Diabetes	16 369 046	13 099 310	4 154 938	3 777 216	30 670 200	23 002 650	91 073 360
CVD	227 545 184	2 375 613	18 886 082	18 886 082	184 021 200	214 691 400	666 405 561
Cancer	93 985 727	653 676	20 396 969	9 443 041	184 021 200	92 010 600	400 511 213
Chronic respiratory disease	5 309 883	2 501 844	10 576 206	13 220 257	46 005 300	24 904 202	102 517 693
Total	**343 209 841**	**18 630 443**	**54 014 195**	**45 326 597**	**444 717 900**	**354 608 852**	**1 260 507 828**

In addition, according to the Georgia Social Service Agency, the total of all disability payments in 2021 came to 1 518 158 lari. In the WHO and World Bank World Report on Disability *(40)*, it was estimated that 47.4%[1] (719 607 lari) of this sum was spent on care for patients with the four main NCDs. Data on NCD disability payments are scarce, both globally and in Georgia. Allocation of the total disability figure for the four main NCDs was based on data from the NCD investment case for Armenia in 2019 *(41)*, adjusted for differences in the proportional mortality from each disease in Georgia and Armenia *(42)*. This allowed estimation of the percentage of disability payments for each of the four main NCDs in Georgia (Table 3).

Table 3. Estimated disability payments in Georgia for the four main NCDs

NCD	Proportional mortality from four main NCDs in Armenia (%)	Adjustment factor (%)	Estimated allocation of disability payments in Georgia (%)	Disability payments allocated to four main NCDs in Georgia (in lari)
CVD	60	125	75.5	541 445
Cancer	17	103	17.6	128 308
Diabetes	3	93	2.8	20 506
Chronic respiratory disease	2	205	4.1	29 348

Indirect costs

When individuals die before the normal retirement age, the labour output they might have produced in any remaining working years is lost. In addition, people who have a disease are more likely to miss days of work (absenteeism) or to work at reduced capacity while at work (presenteeism). Indirect costs consist of the resulting lost economic output, calculated as described below.

Absenteeism and presenteeism

The economic burden of absenteeism and presenteeism due to the four NCDs was estimated as follows:

- First, the number of people of working age (15–64 years) was estimated from data collected from the National Statistical Office, the National Centre for Disease Control and Public Health and the STEPS survey in 2016.
- To determine the prevalence of NCDs in workers, the size of the working-age population with NCDs was multiplied by the rate of participation in the labour force and employment. Similarly, the number of deaths from NCDs was multiplied by the rate of participation in the labour force and employment to estimate the number of workers who had died from NCDs. The number of deaths was subtracted from the number of workers with prevalent NCDs to estimate the number of workers who had survived despite their illness.

1 The WHO and World Bank World Report on Disability *(40)* included an estimate that the four NCDs under discussion, as well as mental illness, account for 66.5% of all years lived with a disability in low- and middle-income countries. This figure is not disaggregated. WHO reported, however, that mental disorders represent 19.1% of all disability-related health conditions in those countries. Subtraction of that figure from 66.5% yields the 47.4% used in this report.

- The figures for productivity losses associated with specific diseases, derived from the international literature (Table 4), were multiplied by the number of surviving workers to estimate the total number of unproductive days due to NCDs.
- In the final step, GDP per worker was used to approximate each worker's productive output in a given year. GDP per worker was multiplied by the proportion of unproductive working days.

Table 4. Rates of absenteeism and presenteeism due to NCDs

NCD	**Rate of absenteeism** Reduction in working days (%) *(reference)*	**Rate of presenteeism** Working at reduced capacity (%) *(reference)*	**Reduction in rate of participation in the labour force (%)** *(reference)*
Hypertension	0.6 *(43)*	3.7 *(43)*	4.4 *(44)*
Stroke	2.8 *(46)*	6.8 *(46)*	11 *(45)*
Acute myocardial infarct	2.8 *(46)*	6.8 *(46)*	11 *(45)*
Diabetes	0.8 *(46)*	11.4 *(46)*	11 *(45)*
Chronic obstructive pulmonary disease	6.1 *(46)*	17.2 *(46)*	11 *(45)*
Cancer	7 *(46)*	8.5 *(46)*	14 *(45)*

Premature deaths

The loss of GDP due to premature death of workers was estimated with the human capital approach. This approach is based on the assumption that foregone economic output is equivalent to the total output that workers would have generated up to retirement age, derived from the number of years between death and the normal retirement age multiplied by employment rates (adjusted for age) and GDP per worker.

Policy and clinical interventions

Five packages were modelled of WHO-recommended policy and clinical interventions for NCD prevention and control *(10)*, to be implemented over 15 years. They are tobacco control, control of alcohol use, awareness of physical activity, salt reduction and clinical interventions for CVDs and diabetes in primary health care. Annex 1 provides full descriptions of each package.

Costing policy interventions

The cost of each package was calculated with the WHO Costing Tool for NCD prevention and control *(47)*. The tool can be used to cost relevant human resources, programme management, training and workshops, external meetings, mass-media campaigns, promotion, advocacy, inspection, monitoring, law enforcement, technical assistance and equipment. It is based on WHO expert assumptions about the quantities of input required to implement and enforce each package. It allows estimation of total costs (not incremental) and is based on the assumption that none is already paid.

Costing clinical interventions

The costs of the clinical intervention packages were calculated with the One Health Tool *(48)*, which allows estimation of the number of NCD cases expected each year in the target population and in the population in need and the coverage rate. It can also be used to calculate costs per service, including drugs, investigations, supplies and health providers' salaries. Assumptions about the quantity of inputs required are made by WHO experts for each clinical intervention; the total (not only incremental) unit costs for resource items are taken from the WHO-CHOICE database and, when available, local data. The model and the assumptions made are available *(49)*.

Coverage

Baseline current coverage of policy and clinical interventions was estimated jointly with experts from the MoIDPLHSA and the National Centre for Disease Control and Public Health and from nongovernmental organizations working in this field (Table 5).

Table 5. Baseline and target coverage levels of policy and clinical interventions

Intervention	Baseline coverage 2020	Target coverage 2034	Justification for 2020 baseline level of implementation
Tobacco			
Monitor tobacco use and prevention policies	Level 3	Level 4	The new tobacco control legislation (2017), the tobacco control strategy and action plan 2021–2023 and the tobacco monitoring component of the State programme for health promotion
Protect people from tobacco smoke (eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport)	Level 3	Level 4	The tobacco control strategy and action plan 2021–2023 and the tobacco monitoring component of the State programme for health promotion
Offer to help quit tobacco use: Brief intervention	Level 1	Level 4	Training is provided for PHC doctors and nurses, but intervention interventions are not available. According to the STEPS 2016 survey, only 16.6% of patients were advised to not start smoking or to quit
Warn about danger: warning labels (large graphic health warnings on all tobacco packages)	Level 3	Level 4	The tobacco control strategy and action plan 2021–2023 and the tobacco monitoring component of the State programme for health promotion
Warn about danger: effective mass media campaigns to educate the public about the harms of smoking, tobacco use and second-hand smoke	Level 2	Level 4	State programme for health promotion
Enforce bans on tobacco advertising (enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship)	Level 3	Level 4	The tobacco control strategy and action plan 2021–2023 and the tobacco monitoring component of the State programme for health promotion

Table 5 contd

Intervention	Baseline coverage 2020	Target coverage 2034	Justification for 2020 baseline level of implementation
Enforce restriction of access by young people	Level 3	Level 4	The tobacco control strategy and action plan 2021–2023 and the tobacco monitoring component of the State programme for health promotion
Raise taxes on tobacco (increase excise taxes and prices of tobacco products)	Level 3	Level 4	The new tobacco control legislation (2017), tobacco control strategy and action plan 2021–2023
Plain packaging of tobacco products	Level 2	Level 4	The new tobacco control legislation (2017), tobacco control strategy and action plan 2021–2023
Rate of excise tax on tobacco products as percentage of retail price	81.2%	95%	NA
Use of alcohol			
Enforce restrictions on the availability of retailed alcohol	Level 1	Level 4	None
Enforce restrictions on alcohol advertising	Level 2	Level 4	Law on advertising adopted by the Parliament (#1228, 18 February 1998)
Raise taxes on alcoholic beverages	Level 2	Level 4	Tax code (2010)
Enforce drink-driving laws (sobriety checkpoints)	Level 2	Level 4	Joint order of the Minister of Internal Affairs and the Minister of Health "approving the rule for establishing the fact of alcohol intoxication (drink)" (No. 1017/01-52/n)
Screening and brief intervention for alcohol use	Level 2	Level 4	Inpatient services for mental and behavioural disorders due to alcohol intake are provided in the State programme for treatment of patients with drug addiction (F10.4; F10.5); however, this programme cannot cover all patients with alcohol use
Rate of excise tax as percentage of retail price (beer)	53%	80%	NA
Rate of excise tax as percentage of retail price (wine)	0%	50%	NA
Rate of excise tax as percentage of retail price (spirits)	15%	80%	NA

Table 5 contd

Intervention	Baseline coverage 2020	Target coverage 2034	Justification for 2020 baseline level of implementation
Physical inactivity			
Awareness campaigns to encourage physical activity (community-wide public education and awareness campaign for physical activity that includes a mass media campaign and other community education, motivational and environmental programmes to supporting behavioural change in physical activity levels)	Level 2	Level 4	The State programme of health promotion was approved in 2015. The programme prioritizes: strengthening tobacco control; education about a healthy diet; raising awareness about excessive alcohol consumption; promoting physical activity; promoting mental health; preventing substance abuse and gambling addiction; increasing and strengthening health promotion
Brief advice as part of routine care (provide physical activity counselling and referral as part of routine primary health care services through a brief intervention)	Level 1	Level 4	Not developed; according to the results of STEPS 2016 survey, only 22.4% of people were advised to optimize physical activity
Salt			
Surveillance	Level 2	Level 4	STEPS 2010 and 2016
Encourage industry to reformulate products	Level 1	Level 4	NA
Adopt standards for front-of-package labelling	Level 2	Level 4	Decree No. 301 of the Government, 1 July 2016 on Technical regulation for approval of the provision of food information to consumers
Adopt standards and strategies to combat misleading marketing	Level 2	Level 4	Decree No. 301 of the Government, 1 July 2016 on Technical regulation for approval of the provision of food information to consumers
Knowledge: education and communication	Level 2	Level 4	The State programme of health promotion was approved in 2015. The programme prioritizes: strengthening tobacco control; education about a healthy diet; raising awareness about excessive alcohol consumption; promoting physical activity; promoting mental health; preventing substance abuse and gambling addiction; increasing and strengthening health promotion
Environment: salt reduction strategies in communal eating spaces	Level 1	Level 4	Not developed; according to the results of the STEPS 2016 survey, only 19.1% of people were advised to decrease their salt consumption
Clinical interventions			
Treatment for people with very high cholesterol (≥ 8 mmol/L (320 mg/dL) but low absolute risk of CVD or diabetes (< 20%)	5.0%	80%	5% estimated for > 8 mmol (30% for cholesterol in Fig. 76 of STEPS 2016)

Table 5 contd

Intervention	Baseline coverage 2020	Target coverage 2034	Justification for 2020 baseline level of implementation
Treatment for people with high blood pressure but a low absolute risk of CVD or diabetes (< 20%)	16.5%	80%	Fig. 64 of STEPS 20164; 16.4% of patients who are on medication for raised blood pressure and have normal (controlled hypertension) blood pressure (systolic < 140 and diastolic < 90)
Treatment for people with a high absolute risk of CVD or diabetes (> 30%)	38.0%	80%	STEPS 2016, p. 60: In the age group 40–69 years, 28% of patients have a 10-year risk of CVD, and ≥ 30% or have cardiovascular disease, of whom 38% receive treatment
Treatment of new cases of acute myocardial infarction with aspirin	23.0%	80%	STEPS 2016, p. 58: Percentage treatment with aspirin among people who have ever had pain or discomfort in the chest due to heart disease or stroke (i.e., treatment of all cases and not only new cases) Explanation: The proportion of people in the whole population who are taking aspirin (denominator is 4204) is 4.7%, but the proportion of those who have ever had a heart attack or chest pain from heart disease or a stroke and who are taking aspirin (denominator is 4204 x 0.203 = 854) is 23%
Treatment of cases of established ischaemic heart disease	50.0%	80%	Georgia profile of capacity and response to NCDs, 2021
Treatment of patients with established cerebrovascular disease and post stroke	50.0%	80%	Georgia profile of capacity and response to NCDs, 2022
Standard glycaemic control (effective glycaemic control for people with diabetes and standard home glucose monitoring for people treated with insulin to reduce complications of diabetes)	20.0%	80%	One Health Tool estimate
Intensive glycaemic control	5.0%	50%	Estimate
Retinopathy screening and photocoagulation (diabetic retinopathy screening for all diabetes patients and laser photocoagulation for prevention of blindness)	1.0%	50%	Estimate
Neuropathy screening and preventive foot care (preventive foot care for people with diabetes, including educational programmes, access to appropriate footwear, multidisciplinary clinics)	1.0%	50%	Estimate

Scaling-up scenario

The scaling-up scenario used for the policy interventions was a growth scale-up, in which it is assumed that much of the capacity for scaling-up already exists, so that full coverage could be achieved within 2 years. For clinical interventions, linear scaling-up was used, in which gradual, sustained growth of coverage is assumed.

Estimating the impact of interventions

The following steps were used to determine the economic losses prevented by an intervention.

- The One Health Tool was used to assess the health benefits of implementing and scaling up the policy and clinical interventions by modelling the number of disease cases averted, healthy life years gained and lives saved over 15 years. Local data from the routine statistical system, hospital discharge registries and STEPS surveys were used in the tool to determine the prevalence of risk factors, disaggregated by age group and gender. The scaling-up patterns used for costing both policy and clinical interventions were used for modelling the impact and benefits.
- To estimate the increase in healthy life-years, GDP per employed person and the reductions in rates of absenteeism and presenteeism were used to determine avoided economic losses, with the same assumptions as for calculating the economic burden of disease.
- The increase in labour force participation resulting from avoided deaths was calculated from the labour force participation rate and the projected number of deaths avoided. The increase in economic output due to avoided mortality was then determined with same methods as used to calculate economic burden.
- The projected economic gains from implementing the interventions were the aggregate of the avoided losses.
- The social benefit of improved health (the intrinsic value of longevity) was estimated by applying a value of 0.5 times GDP per capita to each healthy life-year gained from the interventions *(50)*. The net present value approach was used to calculate future social value, with 3% discounting.

Return on investment

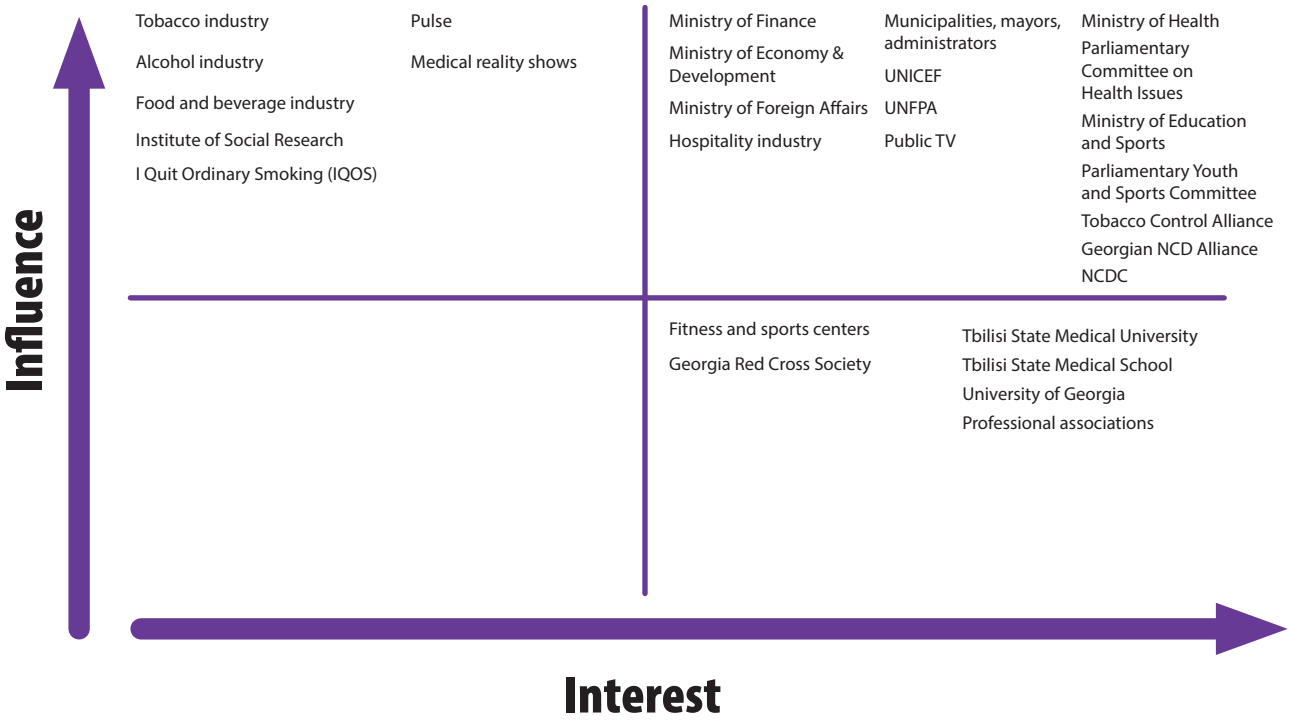
ROIs were determined by comparing the impact (avoided economic losses) of the interventions with the total costs of setting up and implementing the interventions and calculated with the net present value approach to future costs and economic gains, with 3% discounting.

Institutional context analysis

The goal of the ICA was to identify relevant institutions and stakeholders and political opportunities, engage key actors and mobilize coalitions of support. The ICA can also be used to identify and promote effective, feasible interventions. In collaboration with national partners, the researchers first developed a "theory of change" to characterize the current situation, pathways of action, "pain points", key stakeholders and best-case outcomes. The researchers then conducted a desk review (March 2022) and a series of stakeholder interviews (May–June 2022). The desk review included websites, academic articles, Government documents, reports by nongovernmental organizations and media output. This search yielded 37 sources that were further analysed for relevant content. In a round-table discussion with national partners, the researchers identified possible stakeholders, who were then plotted on an "influence/interest" grid (Fig. 6.). The researchers then organized individual 45-minute interviews with seven stakeholders and a further discussion with national partners. The stakeholders interviewed included representatives from Government sectors (health, finance, education and legislation) and individuals involved in advocacy for NCD prevention. The interviewees were asked to identify the largest challenges and opportunities for NCD prevention and control in Georgia, other key actors and next steps for policy action. Finally, the researchers used qualitative thematic analysis to analyse the replies of interviewees and integrate them with the findings of the desk review.

The results of the ICA are reflected throughout this report but were used specifically to supplement the situation analysis, increase understanding of the political and legislative landscape, identify challenges and barriers to NCD prevention policy and determine the political feasibility of the interventions. These steps allow further prioritization of the results of the economic analysis in the light of political and institutional factors.

Fig. 6. Stakeholder identification and analysis



Source: Developed by authors

8

Results

8. Results

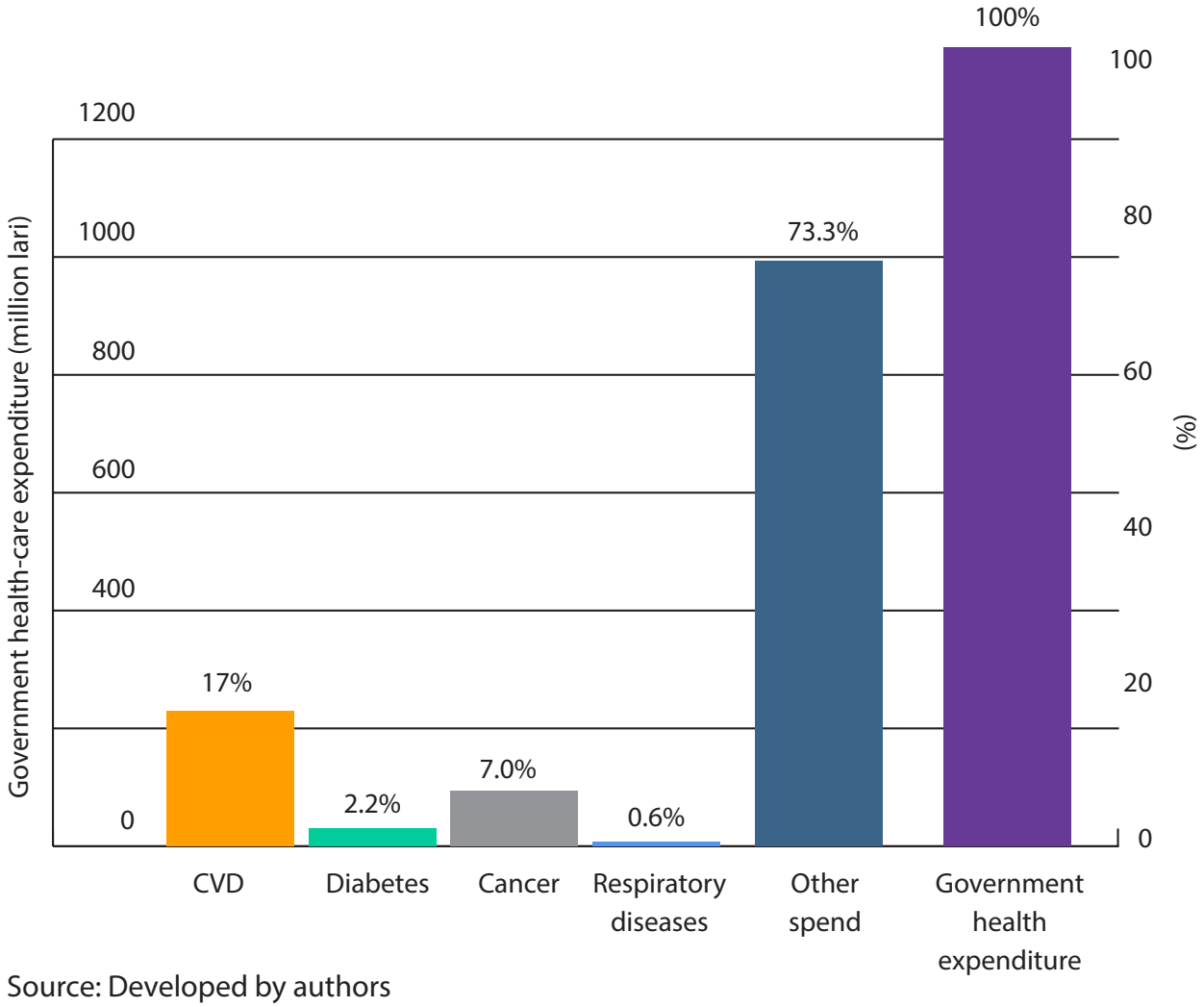
Economic burden

Direct costs

Total health-care expenditure in Georgia in 2019 was 3279 million lari (US$ 1.16 billion), of which 41.3%, or 1355 million lari (US$ 480 million) was from the Government.

Georgia's national health account provides direct information on costs for subgroups of NCDs. The Government spent 361 840 284 lari (US$ 129 million) on the four major NCDs under study, or > 26.7% of the total health-care outlay. As seen in Fig. 7, by far the highest costs for NCDs were for CVD, cancer accounting for the second highest cost.

Fig. 7. Government health expenditure on the four major NCD groups as compared with other Government health expenditure and total Government health expenditure (in 2019 lari)



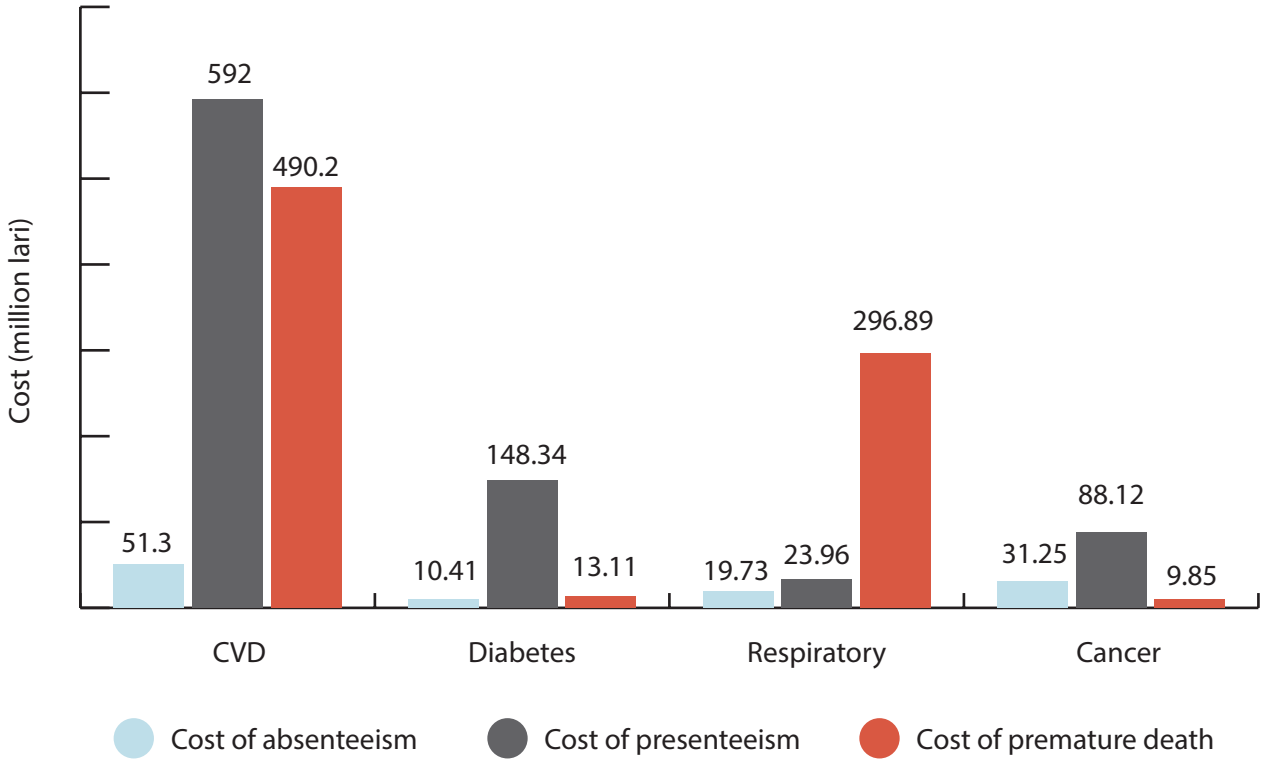
Source: Developed by authors
Data source: Georgia national health account

Private health-care spending on NCDs was 898 667 544 lari (US$ 318 million), and estimated disability payments accounted for 719 607 lari (US$ 254 000). Thus, total expenditure on the four NCD groups was 1 260 507 828 lari (US$ 445 million), or more than 38.4% of total health expenditure. This figure is consistent with international estimates of spending on these NCDs of about 30% of total health-care expenditure *(51)*.

Indirect costs

Indirect economic losses due to NCDs in Georgia were modelled from reduced labour force participation due to increased absenteeism, increased presenteeism and losses due to premature death and disability. Calculation of absenteeism and presenteeism was based on the surviving workforce. Fig. 8 shows the results of calculations of indirect costs for 2019. CVD dominated, with cancer following.

Fig. 8. Costs of absenteeism, presenteeism and premature death due to NCDs in Georgia (in 2019 lari)



Source: Developed by authors

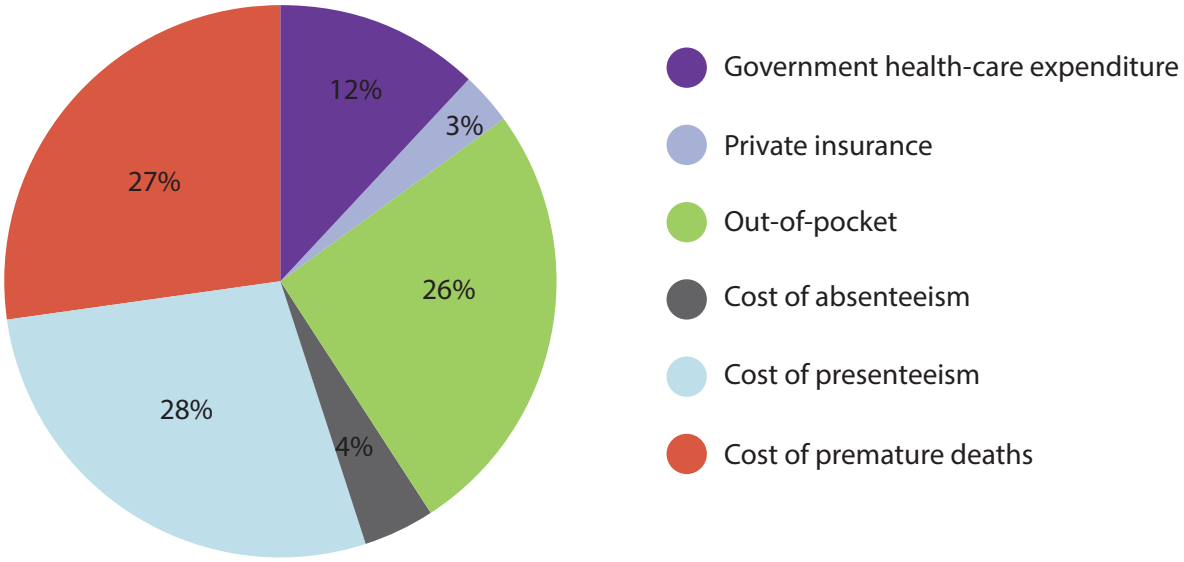
Total economic costs

Table 6 summarizes the direct and indirect NCD costs in Georgia, which come to a total of 3 036 360 682 lari (US$ 1 billion), of which direct costs make up 41.5% and indirect costs 58.5%. The estimated total burden of NCDs was equivalent to 6.16% of the country's GDP in 2019. Fig. 9 shows the distribution of the total burden by type of cost.

Table 6. Economic burden of NCDs in Georgia (in 2019 lari)

Cost	CVD	Cancer	Diabetes	Chronic respiratory disease	Total for the four main NCDs	Per GDP
Direct costs						
Government health expenditure	229 920 797	94 639 403	29 468 356	7 811 727	361 840 284	0.73%
Private insurance	37 772 164	29 840 010	7 932 154	23 796 463	99 340 792	0.20%
Out-of-pocket payment	398 712 600	276 031 800	53 672 850	70 909 502	799 326 752	1.62%
Disability payments	541 445	128 308	20 506	29 348	719 607	< 0.01%
Total direct cost	**666 947 006**	**400 639 521**	**91 093 867**	**102 547 041**	**1 261 227 435**	**2.56%**
Indirect costs						
Absenteeism	51 603 400	19 733 560	10 409 949	31 253 044	112 680 747	0.23%
Presenteeism	322 111 281	23 962 180	148 341 776	88 123 337	852 415 593	1.73%
Premature death	490 192 170	296 888 126	13 107 217	9 849 395	810 036 907	1.64%
Total indirect costs	**863 906 851**	**340 583 866**	**171 858 942**	**129 225 776**	**1 775 133 247**	**3.6%**
Total burden	**1 800 411 669**	**741 223 387**	**262 952 809**	**231 772 817**	**3 036 360 682**	**6.16%**

Fig. 9. Structure of the economic burden of NCDs in Georgia (2019)



Source: Developed by authors

Costs of intervention packages

The costs of the intervention packages were estimated for the period 2022–2036. The clinical intervention package for CVD and diabetes was the most expensive, increasing from 36 504 261 lari (US$ 13 million) in the baseline year to 76 800 442 lari (US$ 27 million) in 2026. Over the entire 15-year scaling-up period, this intervention would cost 1 629 063 237 lari (US$ 576 million). The figures for the other packages are shown in Table 7 for aggregate amounts and in detail in Table 8. On average, implementing all the clinical interventions over 15 years would cost 530 lari per capita (35 lari per capita per year).

Table 7. Cost of implementing four intervention packages over 15 years (in lari)

Intervention package	2022	2023	2024	2025	2026	Total for 5 years	Total for 15 years	Total cost per capita for 15 years
Tobacco	3 584 005	3 114 313	2 484 063	3 128 497	2 484 063	14 794 941	37 849 617	10
Alcohol	7 123 614	7 771 709	7 452 097	8 370 142	8 177 725	38 895 287	164 772 620	44
Physical activity	1 991 200	2 827 378	2 853 289	2 963 900	3 094 284	13 730 051	58 526 934	16
Salt	6 499 144	5 529 764	5 358 764	5 273 264	5 273 264	27 934 201	81 921 603	22
All policy interventions, total	**19 197 963**	**19 243 164**	**18 148 213**	**19 735 803**	**19 029 337**	**95 354 480**	**343 070 775**	**92**
CVD and diabetes clinical intervention	36 504 261	46 492 799	56 514 868	66 608 472	76 800 442	282 920 842	1 629 063 237	438
Total for all interventions (policy and clinical)	**55 702 224**	**65 735 963**	**74 663 081**	**86 344 275**	**95 829 778**	**378 275 322**	**1 972 134 013**	**530**

Table 8. Detailed estimated costs of policy and clinical interventions over 5 and 15 years (in lari)

Intervention	Cost over 5 years	Cost over 15 years
Tobacco control		
Programme strategy development	2 937 261	8 080 994
Smoke-free policies	3 601 883	8 483 822
Raise tobacco taxes	3 085 100	7 895 034
Package warnings	1 836 705	4 384 993
Advertising bans	1 888 521	4 691 760
Media campaigns	1 445 472	4 313 015
Total	**14 794 941**	**37 849 617**
Reduce use of alcohol		
Restrict access to retailed alcohol	6 994 583	20 187 421
Enforce bans on alcohol advertising	1 561 090	4 302 100
Raise taxes on alcohol	2 802 100	7 612 034
Enforce drink driving laws (breath-testing)	5 810 464	18 323 135
Alcohol screening in primary care and brief intervention for heavy drinkers in primary care	18 789 788	106 266 938
Monitoring	2 937 261	8 080 994

Table 8 contd

Intervention	Cost over 5 years	Cost over 15 years
Total	**38 895 287**	**164 772 620**
Physical activity		
Promote public awareness of physical activity	1 408 404	4 330 368
Screen and offer counselling on physical activity in primary care	12 321 647	54 196 567
Total	**13 730 051**	**58 526 934**
Salt reduction		
Surveillance	7 245 300	21 735 899
Encourage industry	624 675	1 874 025
Adopt standards for labelling and marketing	4 401 035	13 203 104
Increase knowledge	11 452 317	34 356 950
Environment	4 210 875	10 751 625
Total	**27 934 201**	**81 921 603**
CVDs and diabetes		
Screening for risk of CVD and diabetes	10 887 909	89 904 480
Treatment for very high cholesterol but low absolute risk of CVD or diabetes	7 444 325	61 469 855
Treatment for high blood pressure but low absolute risk of CVD or diabetes	20 913 676	120 399 089
Treatment for people with high absolute risk of CVD or diabetes	32 416 134	130 295 116
Treatment of new cases of acute myocardial infarction with aspirin	3 005 618	14 333 190
Treatment of cases with established ischaemic heart disease	6 314 624	22 025 209
Treatment of patients with established CVD and post stroke	15 614 792	54 474 055
Standard glycaemic control	119 904 068	640 511 460
Intensive glycaemic control	63 463 965	466 824 264
Retinopathy screening and photocoagulation	164 666	1 605 944
Neuropathy screening and preventive foot care	2 791 064	27 220 576
Total	**282 920 842**	**1 629 063 237**
Grand total	**378 275 322**	**1 972 134 013**

In these packages, policy interventions cost less than clinical ones, for a total of 92 lari per capita over 15 years (6 lari per capita per year). These interventions can be categorized as population-based measures and high-risk group counselling at PHC facilities. The latter include alcohol screening in primary care, brief interventions for heavy drinkers, screening and offering brief advice in routine care and providing counselling on physical activity and referral in routine PHC services. The cost of implementing each class of policy is shown in Table 9.

Table 9. Cost of implementing policy interventions over 15 years

Intervention package	2022	2023	2024	2025	2026	Total for 5 years	Total for 15 years	Total cost per capita for 15 years
Health promotion	14 750 359	13 167 662	11 755 530	12 899 464	11 670 030	64 243 045	182 607 271	49
Counselling in PHC	4 447 604	6 075 502	6 392 683	6 836 339	7 359 307	31 111 435	160 463 504	43
Total	**19 197 963**	**19 243 164**	**18 148 213**	**19 735 803**	**19 029 337**	**95 354 480**	**343 070 775**	**92**

Health benefits

As shown in Table 10, each package studied significantly reduces major cardiovascular events, early mortality and death; therefore, each increases healthy life years. The salt interventions (9820 lives saved/68 953 healthy life-years gained) and the clinical interventions for CVD and diabetes (8333 lives saved/32 644 healthy life-years gained) have the largest impact, but all have some value. It is noteworthy that 58% of averted deaths are premature (occurring before the age of 70).

Table 10. Estimated health benefits over 15 years (2022–2036)

Intervention package	Strokes averted	Acute ischaemic heart disease averted	Mortality averted (total deaths, including premature deaths)	Mortality averted (premature deaths)	Healthy life-years gained
Tobacco	2 142	2 092	2 715	1 936	18 886
Alcohol	94	312	6 895	2 582	2 727
Salt	12 756	7 043	9 820	6 283	68 953
Physical activity	327	569	576	295	4 189
CVD and diabetes clinical interventions	2 398	2 358	8 333	5 487	32 644
Total	**17 717**	**12 374**	**28 339**	**16 583**	**127 399**

Social benefits of increased years of healthy life

In order to combine the value of potential healthy life-years gained and the calculated economic benefits of each package, researchers used a notional monetary value for extended lifetime, known as the "social benefit". The method is explained above. In practice, this benefit represents about 1700 lari per year for the 15-year gain. Table 11 shows the social benefit of each package studied and the aggregated figure if all the interventions were implanted, which would be 607 373 906 lari (US$ 215 million) over 15 years. Because of the nature of the calculations, the greatest social benefits are those of the packages with which the most healthy life-years are gained: salt reduction and clinical interventions for CVD and diabetes.

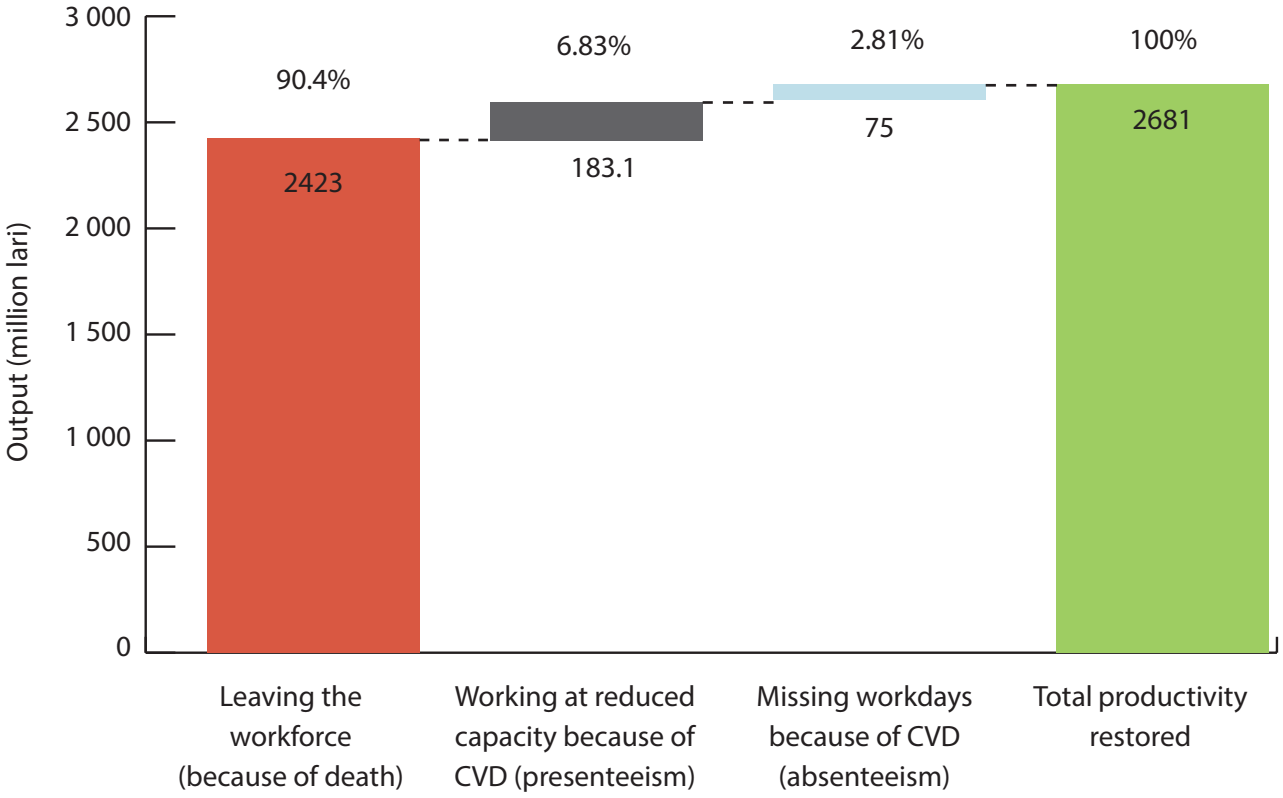
Table 11. Social value of investments over 5 and 15 years

Intervention package	5 years		15 years	
	Lari	US$	Lari	US$
Tobacco	7 116 883	2 514 799	90 796 691	32 083 636
Alcohol	868 047	306 730	13 016 645	4 599 521
Salt	21 912 127	7 742 801	329 238 673	116 338 754
Physical activity	1 725 878	609 851	20 226 019	7 147 003
CVD and diabetes clinical interventions	7 802 474	2 757 058	154 095 877	54 450 840
Total	**39 425 408**	**13 931 239**	**607 373 906**	**214 619 755**

Economic benefits

In addition to social benefits, lower rates of disease incidence and premature mortality also provide economic gains, by avoidance of indirect costs of disease. Fig. 10 shows the aggregate gains for all the clinical and policy intervention packages. The resulting gain in labour productivity is 2 681 141 295 lari (US$ 947 million) over 15 years, equivalent to 5.4% of Georgia's 2019 GDP during that period. By far the largest economic benefits (> 90% of the total) are due to prevention of premature deaths.

Fig. 10. Recovered economic output expected from interventions to reduce tobacco and alcohol use, increase physical activity, reduce salt intake and prevent CVD over 15 years



Source: Developed by authors

Return on investment

Comparison of the costs and benefits of each intervention package shows that the ROI for all those for behaviour change at population level – tobacco control, reducing alcohol use, reducing salt intake and increased physical activity – are > 1 lari for each 1 lari invested over 15 years. The highest ROI is that for the salt reduction package, at 14.7 lari per lari invested over 15 years. As shown in Table 12, however, the ROIs for the others are also substantial.

The estimated ROI for the single package of clinical interventions – for CVD and diabetes – is only 0.6 lari per 1 lari invested. Such outcomes are common in health economics because of the high costs of medical treatment. Furthermore, the intervention options (treatment, secondary prevention after acute events) are unlikely to increase labour force participation after a stroke, myocardial infarction or diabetes. These clinical intervention package, however, saved the most lives (5487 premature deaths averted, see Table 10). Table 12 shows the total productivity benefits attained, and Table 13 adds the social value of the healthy life years gained, with a higher ROI for each package.

Table 12. Costs, benefits and ROIs at 5 and 15 years (not including social value), by intervention package (in lari)

Intervention package	5 years			15 years		
	Total discounted costs	Total productivity benefits	ROI	Total discounted costs	Total productivity benefits	ROI
Tobacco	14 019 153	15 855 802	1.1	31 534 475	295 386 623	9.4
Alcohol	33 602 787	39 418 383	1.2	87 592 475	618 730 514	7.1
Salt	26 430 007	42 288 375	1.6	67 435 047	990 831 150	14.7
Physical activity	12 887 345	3 417 053	0.3	46 237 480	62 791 684	1.4
CVD and diabetes clinical interventions	264 105 970	36 680 493	0.1	1 264 751 128	713 401 323	0.6
Total	**351 045 262**	**137 660 106**		**1 497 550 605**	**2 681 141 295**	

Table 13. Costs, benefits and ROIs at 5 and 15 years (including social value), by intervention package (in lari)

Intervention package	5 years			15 years		
	Total discounted costs	Total productivity and social benefits	ROI	Total discounted costs	Total productivity and social benefits	ROI
Tobacco	14 019 153	22 972 684	1.6	31 534 475	386 183 314	12.2
Alcohol	33 602 787	40 286 430	1.2	87 592 475	631 747 159	7.2
Salt	26 430 007	64 200 502	2.4	67 435 047	1 320 069 823	19.6
Physical activity	12 887 345	5 142 931	0.4	46 237 480	83 017 704	1.8
CVD and diabetes clinical interventions	264 105 970	44 482 967	0.2	1 264 751 128	867 497 200	0.7
Total	**351 045 262**	**177 085 514**		**1 497 550 605**	**3 288 515 200**	

Limitations of the economic analysis

The method used for the investment case has several limitations. It does not include all NCDs and their risk factors, nor does it capture all productivity losses associated with morbidity and mortality due to NCDs, such as reduced unpaid work or reduced productivity as a result of drunkenness or road traffic injuries. Instead, the analysis focused on the four major NCDs and on workplace productivity losses. Moreover, the investment case model does not estimate direct costs associated with NCDs other than those of treatment, such as non-medical costs (e.g., transport to a health provider, foregone wages of carers) or retirement benefits, nor does it include indirect costs such as care provided by relatives and quality of life.

This ROI analysis should not be interpreted as a budget costing exercise. The estimated costs of the interventions do not account for current actual expenditure on, nor the potential benefits already arising from the interventions in which they are partially implemented. Moreover, interventions for which evidence of benefits was lacking were excluded from the analysis.

The model does not allow estimation of reductions in direct health-care costs to treat prevented NCDs. Moreover, the calculated returns include only the economic benefits of improved health outcomes at societal level and not other, more restricted perspectives. For example, the increase in Government revenue generated by interventions such as increasing excise taxes on tobacco and alcohol was not calculated. These limitations mean that the estimates of benefit in the model are conservative and that both the reduction in the burden of NCDs and the benefits of investing in NCD prevention and control are probably higher, especially when the instrumental benefit of a strengthened public sector to society as a whole is considered.

Results of the institutional context analysis

The ICA component of this investment case indicates a number of "entry points", which are feasible and effective areas for potential change in the given political and institutional context (Table 14). Stakeholders identified salt reduction as more likely to achieve political buy-in than the other policy initiatives and that it had already raised interest and momentum among stakeholder. After the success of tobacco control policies in Georgia, stakeholders identified excessive salt consumption as the logical next focus for NCD prevention and control, noting that some of steps used for tobacco control could easily and effectively be used in salt reduction strategies. Even though the tobacco control measures were successful, the ICA noted that there was already a strong foundation for implementing new tobacco control measures and strengthening existing ones.

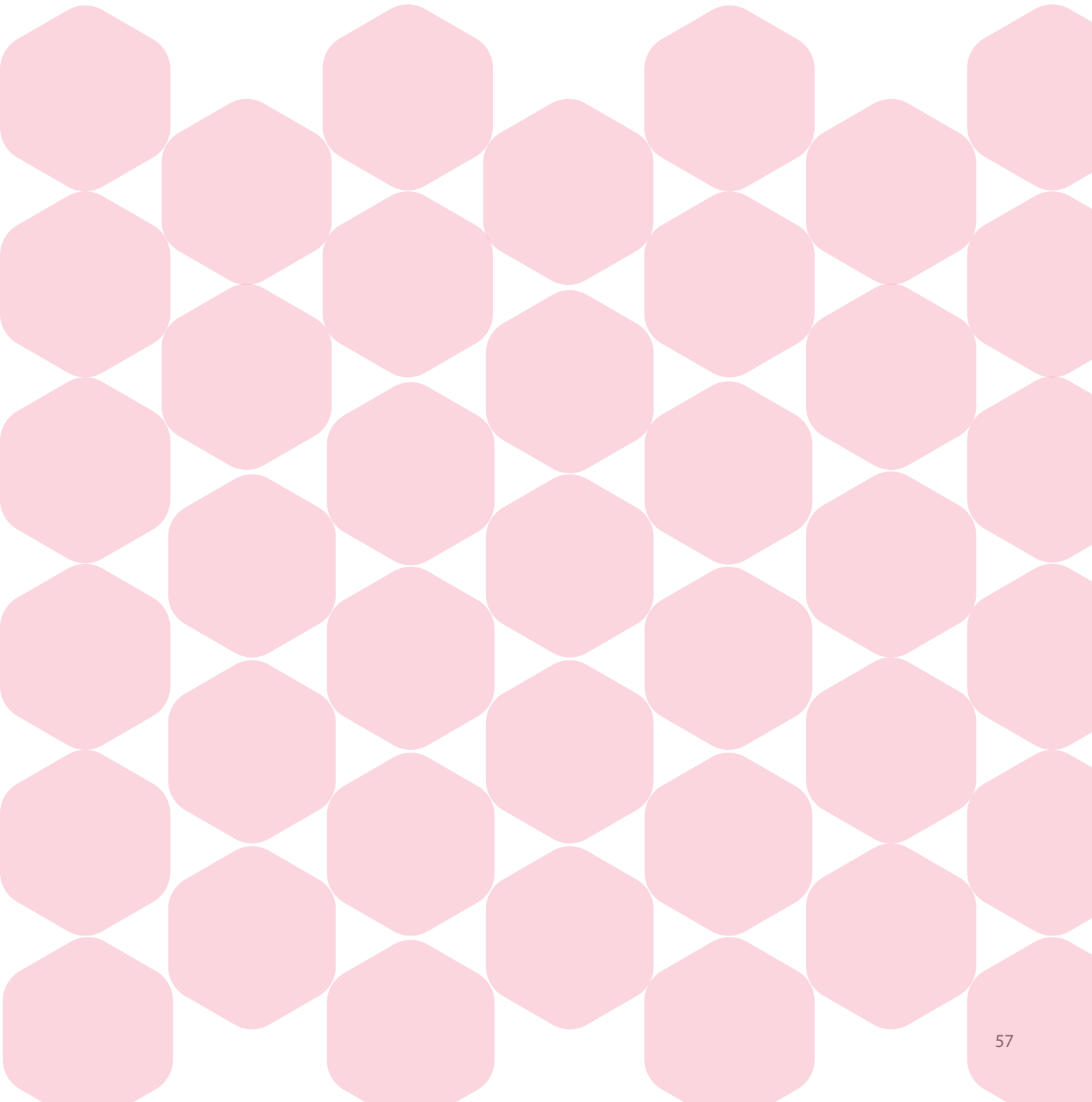
Table 14. "Entry points" for NCD policy action in Georgia

Entry point: high stakeholder interest in salt reduction strategies		
- A focus on salt reduction was regarded by all stakeholders as 'most likely' to gain political buy-in from ministries and was emphasized as the next topic of focus. - Potential to create a 'salt consumption control group' and build on the success of the tobacco control group. - Discussions already taking place on how best to tackle excessive salt consumption through policy.		
CURRENT LEGISLATION: LIMITED	**STAKEHOLDER INTEREST: VERY HIGH**	**CHALLENGES TO IMPLEMENTATION: FEW**
Entry point: political momentum created through new NCD prevention strategy and PHC strategy		
- Stakeholders identified each new strategy holds potential to increase dialogue and generate government support for NCD prevention and control. This creates the necessary political momentum to address policy gaps. - As the new strategies are due to be implemented, this provides an immediate opportunity to spread key messages about the importance of NCD prevention and control.		
CURRENT LEGISLATION: ONGOING	**STAKEHOLDER INTEREST: VERY HIGH**	**CHALLENGES TO IMPLEMENTATION: FEW**
Entry point: build on existing tobacco control laws and apply this success to other NCD risk factors		
- All stakeholders reflected on the success of tobacco control legislation in georgia and suggested the same approach should be replicated for other NCD risk factors. Particularly, reflections centered on the success of utilising various communication channels to disseminate goals for tobacco control. - Stakeholders also expressed the need to further build upon the existing foundations for tobacco control efforts.		
CURRENT LEGISLATION: STRONG	**STAKEHOLDER INTEREST: HIGH**	**CHALLENGES TO IMPLEMENTATION: FEW**
Entry point: unite all stakeholders and create a shared agenda		
- All stakeholders expressed a shared concern for current NCD morbidity and mortality rates in georgia. Various ministries were keen to establish new communication channels with the ministry of health to foster a collaborative approach to ncd prevention. - Efforts should be made to unite NGOs, government, private sector and civil society to promote a "bottom-up" approach aligned to community needs.		
CURRENT LEGISLATION: LIMITED	**STAKEHOLDER INTEREST: VERY HIGH**	**CHALLENGES TO IMPLEMENTATION: FEW**

Stakeholders also expressed strong interest in using the introduction of the new NCD and PHC strategies to generate political momentum for NCD prevention and control. A central point made in each stakeholder interview was that increased discussion of the urgency of NCD prevention and control could unite all stakeholders. Each stakeholder expressed interest in collaborating with others to draw up a shared agenda with nongovernmental organizations, the Government, patients, the private sector and civil society. The political environment is therefore ready to foster a multi-sectoral working group. Guidance on best practice is provided in reports such as the WHO Multisectoral and intersectoral action for improved health and well-being for all *(52)*.

The ICA shows that actionable "entry points" require input from the whole system in order to be effective. Stakeholders emphasized that every channel should be used to promote NCD prevention and control, including mass media campaigns to garner support from the general public and ministries. Each "entry point" also requires a shift from vertical, top–down interventions to horizontal, bottom–up approaches in view of inequitable exposure to NCD risk factors, to ensure that interventions are successful in the long term.

The ICA also indicated "entry points" that are currently less politically feasible in Georgia but should nevertheless be considered for NCD prevention and control. They include policies to reduce alcohol use and interventions to increase physical activity. The fragmentation of the health-care and political systems is a major barrier to the significant changes required for these interventions. Increasing physical activity would require many improvements, from better infrastructure to increased funding, both of which are counted as important barriers, according to interviewed stakeholders. In addition, alcohol is a significant aspect of Georgian culture, and the stakeholders considered that reducing alcohol intake would require a long-term, resource-intensive strategy.



9

Conclusions and recommended actions

9. Conclusion and recommended actions

This analysis of NCDs in Georgia shows continued high rates of mortality and morbidity, growing political will to address the problem and the significant potential of prevention and control policies. The recommendations for feasible, effective policy solutions that are most closely aligned with Georgia's needs and its political–economic context are summarized in Table 15.

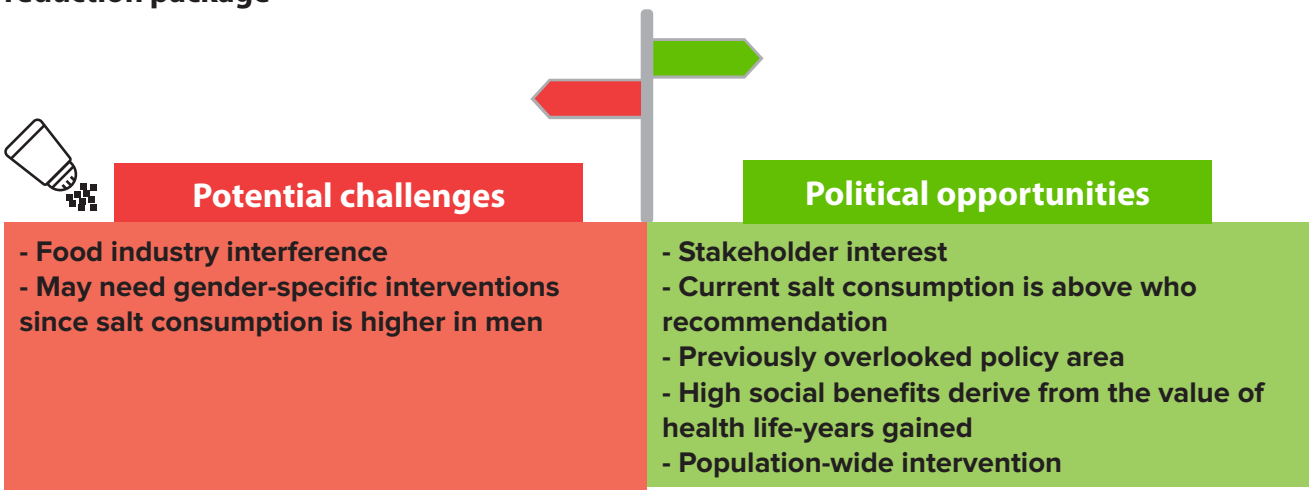
Table 15. Summary of recommended interventions

	Lives saved	Added healthy life-years	ROI after 15 YEARS	Feasibility and priority (highest to lowest)
Salt reduction	10 000	69 000	14.7	- Politically feasible - Must ensure industry interference is controlled
Tobacco control	2700	19 000	9.4	- Strong public and stakeholder support - May face industry opposition
Alcohol intervention	6900	2700	7.1	- Will likely face public opposition
Clinical interventions	8300	33 000	0.6	- May struggle to get political buy-in
Physical activity package	6000	4200	1.4	- Requires improved infrastructure

Implementation of the salt reduction package

The salt reduction package is the most economically attractive and also the most politically feasible intervention of those studied and would avert significant morbidity and mortality due to NCDs. According to this investment case, it should have the highest priority for implementation. Its multi-faceted elements include: introducing surveillance, encouraging industry to reformulate products, adopting labelling and marketing standards, integrating health education and communicating tailored messages for each environment. Interviewed stakeholders expressed that the political context would be receptive to a salt reduction package, and many noted the importance of filling the current policy void in this area.

Fig. 11. Political opportunities and potential challenges for implementation of the salt reduction package

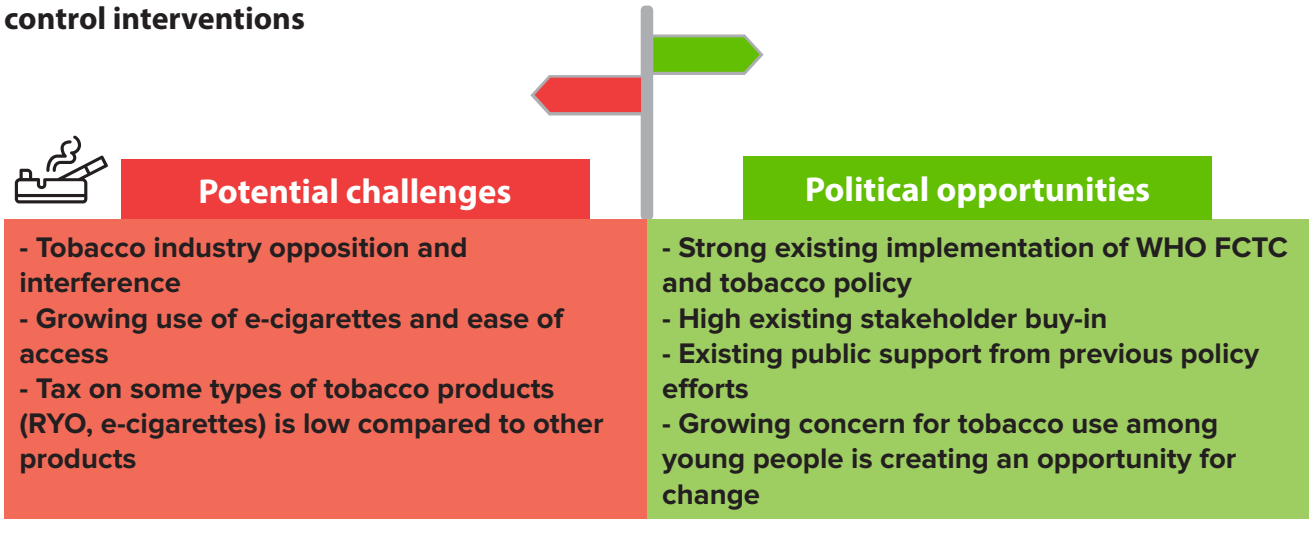


Source: Developed by authors

Tobacco control interventions

In recent years, Georgia has made impressive progress in implementing tobacco control policies consistent with the WHO FCTC, with strong stakeholder and public buy-in. The ICA suggests that this momentum and the political context provide a valuable opportunity for further progress. The tobacco control package recommended in the investment case is based on elements of the WHO's MPOWER package: eliminating exposure to second-hand smoke, requiring large health warnings on tobacco packages, conducting mass media campaigns, banning tobacco advertising and raising excise taxes on and prices of tobacco products. The significant improvements in population health derived from implementing this package would result in a high ROI. Interventions should be targeted to demographic groups with high tobacco use – men and children aged 13–15 years.

Fig. 14. Political opportunities and potential challenges for implementation of tobacco control interventions

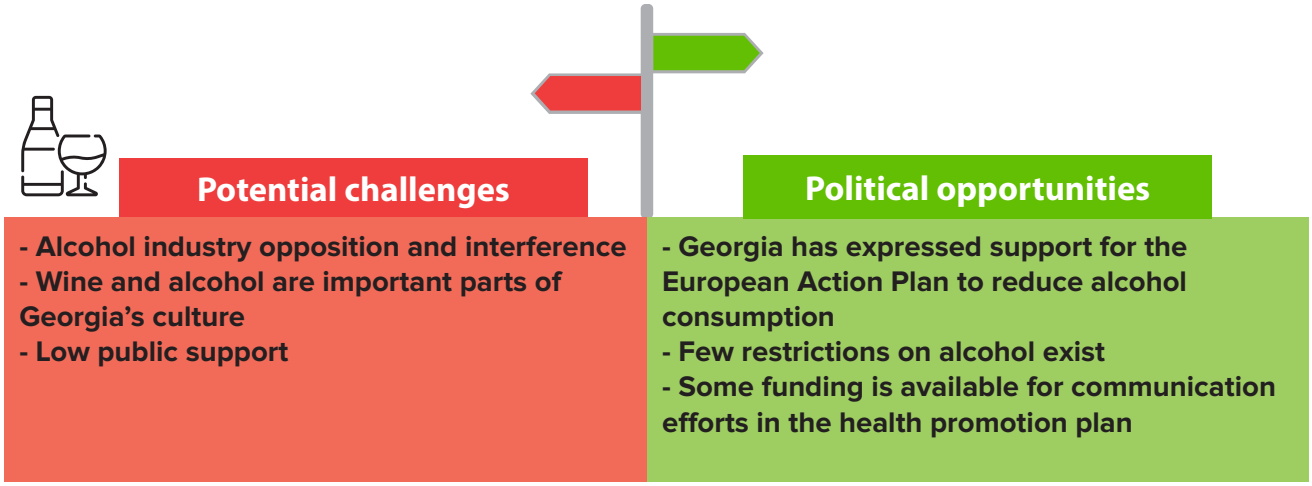


Source: Developed by authors

Reduce alcohol consumption

Implementation of the package for reduction of alcohol use will save many lives and increase the number of healthy life years throughout the population. The ROI over 15 years is 7.1. The package includes: enforcement of restrictions on the availability of retailed alcohol and on advertising, increases in excise taxes and screening for use of alcohol in PHC. The ICA suggests, however, that the place of alcohol in the Georgian culture would complicate implementation of such policies. Although this package includes population-wide policy levers, interventions should target men, who drink more alcohol than women on average.

Fig. 15. Political opportunities for and potential challenges to implementation of the alcohol use control package

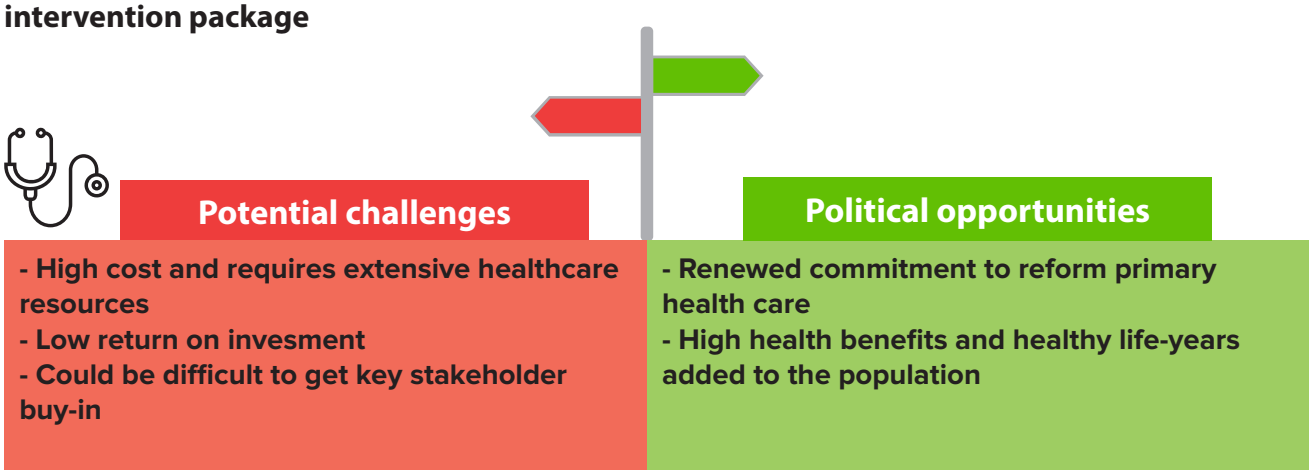


Source: Developed by authors

Clinical interventions for CVD and diabetes

The clinical intervention package yields the second highest health benefits of those studied but requires the highest spending. As a result, it has a lower ROI for both 5 and 15 years than the other interventions. The ICA component of this analysis highlighted the fragmentation of Georgia's political environment, which might mean that the low ROI would limit stakeholder buy-in. The recent political focus on improvements in key health-care areas such as PHC, however, suggests that there is an opportunity to implement this intervention, with significant health benefits.

Fig. 16. Political opportunities and potential challenges for implementation of the clinical intervention package

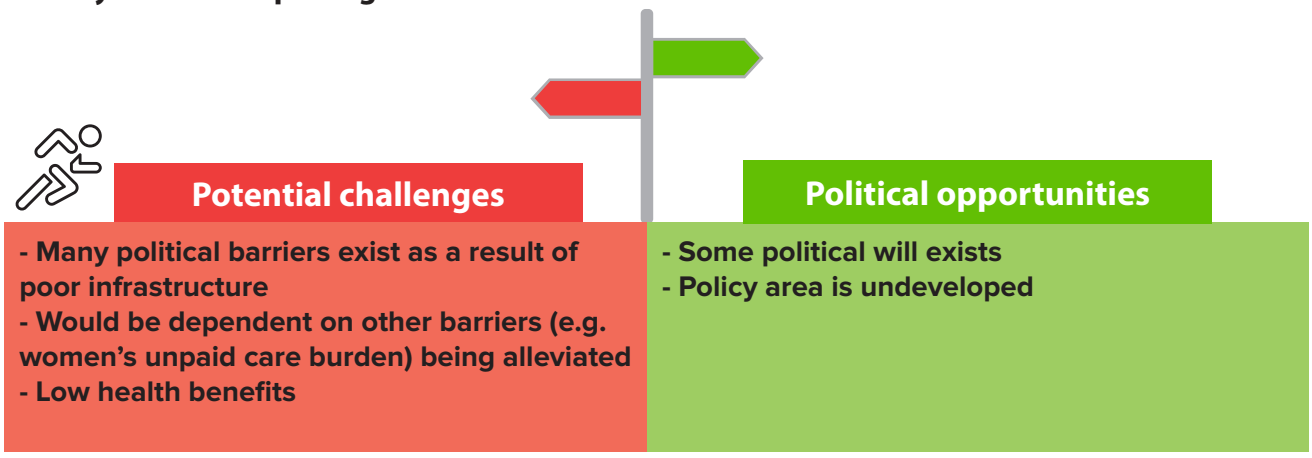


Source: Developed by authors

Physical activity awareness package

Few Georgians, and especially women and young people, engage in physical activity. While the physical activity package described in the economic analysis would include awareness-raising, such as counselling and a public awareness campaign, it yields the lowest health benefits of all the interventions studied. Moreover, the ROI is relatively low, at 1.4. The ICA also showed significant political barriers to successful implementation, such as lack of adequate infrastructure, underfunded health promotion activities and stigmatization of women and girls who exercise. These barriers would have to be addressed before/ in parallel with any physical activity awareness campaign.

Fig. 17. Political opportunities and potential challenges for implementation of the physical activity awareness package



Source: Developed by authors

Other recommendations

In addition to the recommendations outlined above, the stakeholder interviews yielded additional, broader recommendations to improve NCD prevention and control in Georgia, including strengthening funding, health systems, data, stakeholder engagement, actions to prevent industry interference, public engagement and equity.

National NCD strategy 2021-2026

One of the Georgia's main priorities should be to adopt the new NCD strategy for 2021–2026. The Georgian Government should lead by providing adequate funding and infrastructure to support the objectives of the strategy and ensure its success.

As a central pillar of NCD prevention and control strategies, stakeholders expressed the importance of ensuring the best start in life through improved nutrition to provide protection against a number of NCDs. This requires an investment in nutrition at all stages of life and includes protecting, promoting, supporting breastfeeding; removing barriers to breastfeeding; and giving support for appropriate complementary feeding *(55)*. To achieve this, strategies including paid maternity leave, return-to-work legislation, and strengthening the capacity of health providers and services should be enacted across multiple sectors *(55)*.

Health systems strengthening

NCD prevention and control require a strong, functioning health system. Georgia would benefit from health systems strengthening, including better training for health-care workers in NCD prevention, full introduction of the new national PHC road map 2021–2025, better access to services in rural regions and strategies to increase the retention of health-care workers.

More importantly, however, Georgia's domestic general health expenditure is exceptionally low — less than 3% of the GDP *(56)*. As such, it is recommended that Georgia increases state spending in health in order to address the burden of NCDs and strengthen the overall health system.

Data collection and reporting

Georgia should consider improving nationwide data collection and reporting on NCD risk factors. Stakeholders suggested that the WHO STEPS survey, which was conducted in 2010 and again in 2016, should be conducted more frequently (e.g., every 3–5 years). Georgia should also improve monitoring and evaluation of new NCD policies to determine which interventions are effective, for whom and in what context. Data should be collected before and after interventions. Academic and nongovernmental organizations might be able to support national monitoring and evaluation.

Stakeholder alignment

Stakeholders also identified lack of cohesion and collaboration among Georgia's Government sectors, most of the burden for control and prevention of NCDs falling on the Ministry of Health, Labour and Social Affairs. The urgent task of addressing NCDs in Georgia cannot be achieved in a singular, siloed approach. Ministers in different sectors should be involved in designing policy and in implementation to build political power and drive social change.

Actions to prevent industry interference

One of the major challenges to NCD prevention and control in Georgia is industry interference in setting key policies. All stakeholders should be aware of such interference, prevent it wherever possible and adhere to the WHO FCTC guidance on preventing interference by the tobacco and other industries *(27)*. That publication provides recommendations for averting industry interference and can be used in other policy areas, such as prevention of food industry interference in policy.

Public engagement

The Georgian public remains largely unaware of the threats posed by NCDs and their risk factors to the population's health. Stakeholders noted that the Government had designed a successful communication campaign to warn the public of the dangers of tobacco and recommended that it design an advocacy campaign to warn the population about other NCD risk factors, including use of alcohol, physical inactivity and unhealthy diets.

Equity

Any policy that is implemented must be gender-inclusive and include marginalized groups. This will strengthen Georgia's response to NCD prevention by ensuring that all members of the population are treated equally within and outside the health system. A number of UN and private sector guidelines exist for designing inclusive policies in alignment with the SDGs, and these should be followed in Georgian NCD policy formulation and implementation *(53, 54)*.

References[2]

1. Non-Communicable Disease Risk Factors STEPS Research Georgia, 2016. Tbilisi: Ministry of Internally Displaced Persons From The Occupied Territories, Labour, Health and Social Affairs; National Center For Disease Control And Public Health; World Health Organization Regional Office For Europe; 2018 (https://extranet.who.int/ncdsmicrodata/index.php/catalog/223/related-materials).
2. Gender and NCDs in Georgia: analysis of STEPS data, 2020. Copenhagen: World Health Organization Regional Office for Europe; 2020 (https://www.who.int/europe/publications/i/item/gender-and-noncommunicable-diseases-in-georgia--analysis-of-steps-data).
3. World Bank development indicators. Washington DC: The World Bank Group; 2022 (https://databank.worldbank.org/source/world-development-indicators).
4. Global health estimates 2020: Disease burden by cause, age, sex, by country and by region, 2000–2019. Geneva: World Health Organization; 2020 (https://www.who.int/data/global-health-estimates).
5. Marmot M, Bell R. Social determinants and non-communicable diseases: Time for integrated action. BMJ Clin Res. 2019;364:1251 (doi: https://doi.org/10.1136/bmj.l251).
6. Health and sustainable development: progress in Georgia. Tibilisi: United Nations in Georgia; 2020 (https://georgia.un.org/en/86566-health-and-sustainable-development-progress-georgia).
7. Health systems in action: Georgia, 2021. Copenhagen: European Observatory on Health Systems and Policies, World Health Organization Regional Office for Europe; 2021 (https://eurohealthobservatory.who.int/publications/i/health-systems-in-action-georgia).
8. Bertram MY, Sweeny K, Lauer JA, Chisholm D, Sheehan P, Rasmussen B et al. Investing in non-communicable diseases: An estimation of the return on investment for prevention and treatment services. Lancet. 2018;391(10134):2071–8 (doi: https://doi.org/10.1016/s0140-6736(18)30665-2).
9. Chaker L, Falla A, van der Lee SJ, Muka T, Imo D, Jaspers L et al. The global impact of non-communicable diseases on macro-economic productivity: A systematic review. Eur J Epidemiol. 2015;30(5):357–95 (doi: https://doi.org/10.1007/s10654-015-0026-5).
10. Tackling NCDs: "Best buys" and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: World Health Organization; 2017 (https://apps.who.int/iris/handle/10665/259232).
11. Non-communicable diseases risk-factor STEPS survey, Georgia, 2016. Executive summary. Geneva: World Health Organization; 2018 (https://www.who.int/ncds/surveillance/steps/STEPS_Georgia_2016_ENG_summary_2016_final.pdf).
12. Life expectancy and Healthy life expectancy. Data by WHO region Global Health Observatory (2019). World Health Organization; 2021 (https://apps.who.int/gho/data/view.main.SDG2016LEXREGv?lang=en).
13. Global Youth Tobacco Survey (2017). Geneva: World Health Organization; 2017 (https://www.who.int/publications/m/item/2017-gyts-fact-sheet-georgia).

2 All references were accessed on 7 July 2024.

14. Addressing SDG acceleration and policy support: Drivers for sustainable development in Georgia. New York City (NY): United Nations Development Programme; 2019 (https://www.undp.org/georgia/publications/addressing-sdg-acceleration-and-policy-support-drivers-sustainable-development-georgia-2019).
15. Bakhturidze G. Tobacco control policy development and progress in Georgia. J Health Inequalities. 2018;4(2):90–4 (doi: https://doi.org/10.5114/jhi.2018.83585).
16. 2018 global progress report. Geneva: World Health Organization, WHO Framework on Tobacco Control; 2019 (https://fctc.who.int/publications/m/item/2018-global-progress-report).
17. Noncommunicable diseases country profiles 2018. Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/274512).
18. Countdown to 2023: WHO report on global trans-fat elimination. Geneva: World Health Organization; 2020 (https://apps.who.int/iris/handle/10665/334170).
19. Global status report on alcohol and health 2018. Geneva: World Health Organization; 2018 (https://iris.who.int/handle/10665/274603).
20. How to increase engagement of Georgia's population in sports and physical activities? Tibilisi: United Nations Development Programme Georgia; 2020 (https://www.undp.org/georgia/publications/how-increase-engagement-georgias-population-sports-and-physical-activities).
21. 2021 Global Nutrition Report. Bristol: Development Initiatives; 2021 (https://globalnutritionreport.org/reports/2021-global-nutrition-report/).
22. Georgia country partnership framework 2019–2022. Washington DC: World Bank; 2018 (https://www.worldbank.org/en/country/georgia/publication/georgia-country-partnership-framework-2019-2022).
23. Noncommunicable Disease Surveillance, Monitoring and Reporting: Georgia. Geneva: World Health Organization; 2017 (https://www.who.int/teams/noncommunicable-diseases/surveillance/data/georgia/).
24. National strategy and action plan for non-communicable diseases. Georgia Ministry of Health, Labour and Social Affairs, National Centre for Disease Control and Public health; 2017 (https://www.iccp-portal.org/system/files/plans/NCD_Strategy_UICC.pdf).
25. The National Strategy and Action Plan for NCD Prevention and Control (2021-2026). Government of Georgia; 2023 (https://matsne.gov.ge/ka/document/view/5782808?publication=0)
26. The United Nations Sustainable Development Cooperation Framework (UNSDCF) for 2021–2025. Tibilisi: United Nations in Georgia; 2020 (https://georgia.un.org/en/103990-united-nations-sustainable-development-cooperation-framework-unsdcf-2021-2025).
27. WHO Framework Convention on Tobacco Control DGO. Model policy for UN agencies on preventing tobacco industry interference. Geneva: World Health Organization; 2021 (https://fctc.who.int/publications/m/item/model-policy-for-un-agencies-on-preventing-tobacco-industry-interference).
28. WHO FCTC. 2021 global progress report on implementation of the WHO Framework Convention on Tobacco Control. Geneva: World Health Organization, WHO Framework Convention on Tobacco Control; 2022 (https://fctc.who.int/publications/i/item/9789240041769).
29. WHO report on the global tobacco epidemic 2021: Addressing new and emerging products. Geneva: World Health Organization; 2021 (https://www.who.int/publications/i/item/9789240032095).

30. Zoidze A, Gabunia T, Ekberg A. Georgia. From crisis to opportunity: Advancing primary health care reform amid the COVID-19 pandemic (2021). Geneva: World Health Organization; 2022 (https://www.who.int/spain/publications/m/item/georgia-from-crisis-to-opportunity-advancing-primary-health-care-reform-amid-the-covid-19-pandemic-(2021)).
31. Georgia – Training initiatives on tackling diabetes: NCD stories from the field. Copenhagen: World Health Organization Regional Office for Europe; 2022 (https://apps.who.int/iris/handle/10665/353055).
32. "Diabetes matters" visits WDF project in Georgia. Bagsværd: World Diabetes Foundation; 2020 (https://www.worlddiabetesfoundation.org/news/diabetes-matters-visits-wdf-project-georgia).
33. Association Agreement between the European Union and the European Atomic Energy Community and their Member States, of the one part, and Georgia, 2014 (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:261:FULL&from=EN)
34. Vardavas CI. (2022) European Tobacco Products Directive (TPD): current impact and future steps. Tobacco Control 2022;31:198-201 (https://tobaccocontrol.bmj.com/content/31/2/198.info).
35. Health systems in action: Georgia. Copenhagen: World Health Organization Regional Office for Europe, European Observatory on Health Systems and Policies; 2021 (https://eurohealthobservatory.who.int/publications/i/health-systems-in-action-georgia).
36. Accelerating progress towards the SDGs: Identifying priority areas for action in Georgia. New York City (NY): 2020 (https://www.undp.org/georgia/publications/accelerating-progress-towards-sdgs-identifying-priority-areas-action-georgia-2020).
37. Richardson E, Berdzuli N. Georgia: Health system review. Copenhagen: World Health Organization Regional Office for Europe; 2017 (https://apps.who.int/iris/handle/10665/330206).
38. Loring B, Robertson A. (2014). Obesity and inequities: guidance for addressing inequities in overweight and obesity. World Health Organization. Regional Office for Europe. https://iris.who.int/handle/10665/344619
39. World Health Organization, United Nations Development Programme, United Nations Inter-Agency Task Force. Non-communicable disease prevention and control: A guidance note for investment cases. New York City (NY): United Nations Development Programme; 2019 (https://www.undp.org/publications/non-communicable-disease-prevention-and-control-guidance-note-investment-cases).
40. World Health Organization & World Bank. World report on disability 2011. World Health Organization; 2011 (https://apps.who.int/iris/handle/10665/44575).
41. Farrington J, Kontsevaya A, Fediaev D, Grafton D, Khachatryan H, Schmitt A et al. Prevention and control of noncommunicable diseases in Armenia: The case for investment. Geneva: World Health Organization; 2019 (https://apps.who.int/iris/handle/10665/346420).
42. Institute for Health Metrics and Evaluation. 'GBD Results Tool.' Global Health Data Exchange. Seattle WA: University of Washington; 2019 (http://ghdx.healthdata.org/gbd-results-tool).
43. Mitchell RJ, Bates P. Measuring health-related productivity loss. Pop Health Manage. 2011;14(2):93–8 (doi: https://doi.org/10.1089/pop.2010.0014).
44. Wang PS, Beck A, Berglund P, Leutzinger JA, Pronk N, Richling D et al. Chronic medical conditions and work performance in the health and work performance questionnaire calibration surveys. J Occup Environ Med. 2003;45(12):1303–11 (doi: https://doi.org/10.1097/01.jom.0000100200.90573.pdf).

45. Barnay T, Debrand T. Effects of health on the labour force participation of older persons in Europe. Health Econ Lett. 2006;109 http://www.irdes.fr/EspaceAnglais/Publications/IrdesPublications/QES109.pdf).
46. Rasmussen B, Sweeny K, Sheehan P. Health and the economy: The impact of wellness on workforce productivity in global markets (https://vuir.vu.edu.au/33591/).
47. WHO costing tool for NCD prevention and control. Scaling up action against noncommunicable diseases: how much will it cost?. World Health Organization; 2011 (https://apps.who.int/iris/handle/10665/44706).
48. OneHealth tool v. 6.08. Glastonbury (CT): Avenir Health; 2021 (https://www.avenirhealth.org/software-onehealth.php).
49. OneHealth tool intervention assumptions. Glastonbury (CT): Avenir Health; 2016 (http://avenirhealth.org/Download/Spectrum/Manuals/Treatment%20Assumptions%202016%201%2010.pdf).
50. Stenberg K, Axelson H, Sheehan P, Anderson I, Gülmezoglu AM, Temmerman M et al. Advancing social and economic development by investing in women's and children's health: A new global investment framework. Lancet. 2014;383(9925):1333–54 (doi: https://doi.org/10.1016/s0140-6736(13)62231-x).
51. Garg, C., & Evans, D. What is the impact of non-communicable diseases on national health expenditures: a synthesis of available data. WHO NCD discussion paper 3.
52. Multisectoral and intersectoral action for improved health and well-being for all: Mapping of the WHO European Region. Governance for a sustainable future: improving health and well-being for all: Final report. Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/341715).
53. Policy guidelines for inclusive Sustainable Development Goals. Geneva: Office of the United Nations High Commissioner for Human Rights; 2020 (https://www.ohchr.org/sites/default/files/Documents/Issues/Disability/SDG-CRPD-Resource/policy-guideline-foundations.pdf).
54. Realizing the SDGs for all: Ensuring inclusiveness and equality for every person, everywhere. New York City (NY): Together 2030; 2020 (https://sustainabledevelopment.un.org/content/documents/23216Together_2030__Position_Paper__HLPF_2019.pdf).
55. The best start in life: breastfeeding for the prevention of noncommunicable diseases and the achievement of the Sustainable Development Goals in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2020 (https://www.who.int/europe/publications/m/item/the-best-start-in-life.-breastfeeding-for-the-prevention-of-noncommunicable-diseases-and-the-achievement-of-the-sustainable-development-goals-in-the-who-european-region)
56. Global Health Expenditure Database. World Health Organization; 2022 (https://apps.who.int/nha/database).

Annex 1. Description of interventions

The tobacco control package includes monitoring tobacco use and prevention policies; protecting people from tobacco smoke and eliminating exposure to second-hand tobacco smoke in all indoor workplaces, public places and public transport; offering help to quit tobacco use; warning about the danger of tobacco; placing large, graphic health warnings on all tobacco packages; and conducting effective mass media campaigns to educate the public about the harms of smoking, other tobacco use and second-hand smoke; enforcing comprehensive bans on tobacco advertising, promotion and sponsorship; enforcing restriction of access by young people; and raising excise taxes on and the prices of tobacco products.

The alcohol use control package includes enforcing restrictions on the availability of retailed alcohol; enforcing restrictions on alcohol advertising; raising taxes on alcoholic beverages; enforcing drink–driving laws (sobriety checkpoints); introducing alcohol screening in primary care settings; and providing brief intervention sessions for heavy drinkers during routine primary health care.

The physical activity awareness package provides counselling on physical activity and referral in routine primary health care. In addition, the package recommends conducting a public awareness campaign on physical activity.

The salt reduction package includes surveillance (measurement and monitoring of salt use and the sodium content of foods; monitoring and evaluation of the actual impact and results of the programme); incentivizing industry (setting targets for the amount of salt in foods and implementing strategies to promote reformulation); adopting standards for labelling and marketing (interpretive front-of-pack nutrition labelling systems and strategies to combat misleading marketing of foods high in salt as healthy options); knowledge (introducing integrated health education and communication strategies to raise awareness about the health risks and dietary sources of salt to change behaviour); and environment (implementing multi-component salt reduction strategies in community settings, including schools, workplaces and hospitals).

The clinical intervention package includes screening for risk factors for CVDs and diabetes; treatment for people with very high cholesterol (≥ 8 mmol/L [320 mg/dL]) but a low absolute risk of CVD or diabetes (< 20%); treatment of people with high blood pressure but a low absolute risk of CVD or diabetes (< 20%); treatment for people with a high absolute risk of CVD or diabetes (> 30%), treatment of new cases of acute myocardial infarction with aspirin; treatment of cases of established ischaemic heart disease; treatment of people with established cerebrovascular disease and after a stroke; standard glyacemic control (effective glycaemic control for people with diabetes, with standard home glucose monitoring for people treated with insulin to reduce complications of diabetes); intensive glycaemic control; retinopathy screening and photocoagulation (diabetic retinopathy screening for all patients with diabetes and laser photocoagulation for prevention of blindness); neuropathy screening; and preventive foot care (for people with diabetes, including educational programmes, access to appropriate footwear and multidisciplinary clinics).

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands (Kingdom of the)
North Macedonia
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
Türkiye
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

WHO/EURO: 2026-10142-49914-75012 (PDF)

World Health Organization Regional Office for Europe
WHO Country Office, Georgia Barnovi Str. 81, 0179 Tbilisi, Georgia
Tel.: +995 32 2998073
Email: eurowhogeo@who.int
Website: www.who.int/europe