Public health review of noncommunicable disease prevention and its determinants

BELGIUM
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Abstract

Noncommunicable diseases (NCDs) contributed to nearly 90% of deaths in Belgium over the decade to 2019 and 40% of these deaths were attributed to modifiable risk factors. Health inequities have worsened over time. This report has analysed trends for the main NCDs and associated risk factors to identify the main challenges and future policy considerations to reduce the NCD burden and related health inequities. The policy considerations include adopting a Health in All Policies approach to prioritize and support health and well-being within all sectors, not just the health sector, thus providing a supportive environment to make the healthy choice the easier choice, promoting an economy of well-being to build trust and accountability across sectors and monitoring and evaluating policies to leave no one behind.

Keywords

PUBLIC HEALTH REVIEW
NONCOMMUNICABLE DISEASES
HEALTH INEQUITIES
RISK FACTORS
BELGIUM

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Foreword

Noncommunicable diseases (NCDs) are one of the greatest public health challenges that Belgium faces. When I first heard of the request from the Federal Public Service for Health, Food Chain Safety and Environment in Belgium, for a holistic public health review that combined behavioural risk factors, environmental risks and social determinants, I was reminded of the early days of my career as a family doctor in Belgium. That experience taught me the importance of looking beyond symptoms to understanding the circumstances in which people were living, in order to provide the best health care.

This report is a great example of the leadership and innovative thinking shown by Belgium, focusing on preventative policies to ensure a cost-effective, sustainable improvement to health and well-being. This is also a driving principle of the European Programme of Work.

The review’s findings confirm that now, more than ever, there is a need for strong intersectoral collaboration and government leadership to minimise undue influence from economic operators to implement the ‘Best Buy’ policies to reduce NCDs. The use of social value accounting across government investments and decisions would increase the access, quality and affordability of goods and services needed to live a healthy life particularly for the vulnerable and left behind communities.

We have been delighted to work alongside the federal and federated authorities of public health in Belgium and are grateful for the support from other stakeholders in conducting this review. Moreover, we look forward to continuing this work and to build on these recommendations at federal, national and regional levels, as Belgium moves towards its Presidency of the Council of the European Union in 2024.

This is the first time such a review has been conducted, bringing together different teams at the WHO Regional Office for Europe to create a new methodology. It is an example that I hope other countries will follow in how we can successfully respond to their needs.

I would like to express my great thanks to all those who have been involved in producing this report, including external experts for their valuable feedback.

As always, we stand ready to extend our support to our Member States in their journey to improve health and well-being of their people.

Dr Hans Henri P. Kluge
WHO Regional Director for Europe
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Overall supervision and management of this review was by Kremlin Wickramasinghe, WHO European Office for Prevention and Control of NCDs (NCD Office). Production of the review through organizing meetings for concept and content development and compiling and developing the report was carried out by Sumudu K Kasturiarachchi (NCD Office). The NCD Office is an integral part of the Division of Country Health Programmes. This report was produced as an interdivisional collaboration between the NCD Office; the Division of Country Support, the Office for Investment for Health and Development (Venice Office), the Office for Environment and Health (Bonn Office) and Policy and Governance for Health through the Life Course Team (PGH Team). The WHO Regional Office is extremely grateful for all these teams for allocating time and resources at short notice to deliver this task with their complete dedication.

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# Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APC</td>
<td>alcohol per capita consumption</td>
</tr>
<tr>
<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FCTC</td>
<td>Framework Convention on Tobacco Control</td>
</tr>
<tr>
<td>FPS Health</td>
<td>Federal Public Service Health, Food Chain Safety and Environment</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>HED</td>
<td>heavy episodic drinking</td>
</tr>
<tr>
<td>HEPA</td>
<td>health-enhancing physical activity</td>
</tr>
<tr>
<td>IHD</td>
<td>ischaemic heart disease</td>
</tr>
<tr>
<td>NCD</td>
<td>noncommunicable disease</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>PM</td>
<td>particulate matter (aerodynamic diameters of $\leq 2.5 \mu m$ (PM$<em>{2.5}$) or $\leq 10 \mu m$ (PM$</em>{10}$))</td>
</tr>
<tr>
<td>Q1–Q5</td>
<td>income quintiles from the lowest (poorest) to the highest (richest) income category</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
</tr>
<tr>
<td>SARS-CoV-2</td>
<td>severe acute respiratory syndrome coronavirus 2 (causing COVID-19)</td>
</tr>
<tr>
<td>SES</td>
<td>socioeconomic status</td>
</tr>
</tbody>
</table>
Glossary

**Best buy policies.** A set of highly cost-effective and feasible to implement public health policies that, on average, avert 100 disability-adjusted life-years with an investment of US$ 1.

**Contaminated sites.** Areas having hosted or being affected by human activities, which have produced environmental contamination of soil, sediment, surface or groundwater, air, or food chain, resulting, or being able to result, in harm to human health, the environment or ecological systems.

**Decoupling of environmental pressures from economic growth.** An economy that would be able to grow without causing an increase in environmental pressure.

**Economy of well-being.** An approach where priorities for investment and spending are guided by the extent to which a policy service or organization can improve population and societal well-being.

**Hazardous drinking.** Consuming more than 20 g/day of ethanol by a woman and more 40 g/day of ethanol by a man.

**Heavy episodic drinking.** Consuming 60 g of ethanol on at least one occasion in the last 30 days.

**Inequality.** The systematic differences that exist between groups of people.

**Inequity.** An inequality that is potentially avoidable and is therefore unjust.

**Particle pollution (particulate matter).** Particles with aerodynamic diameters of less than or equal to 2.5 µm (PM$_{2.5}$) or 10 µm (PM$_{10}$); other ground level pollutants of significance are ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide.

**Public goods for health.** Conditions that are essential to be able to live a healthy life, and the degree of investment, coverage and uptake of policies that influence health equity outcomes; they are direct responsibility of or are co-produced with other sectors and stakeholders in society.

**Social value accounting methods.** Methods that allow quantification of social economic and environmental outcomes to deliver the most value for money in decision-making processes regarding procurement, commissioning, budget prioritization and assessment and evaluation.

**Total alcohol per capita consumption.** Total (recorded and unrecorded) alcohol per capita consumption within a calendar year in litres of pure alcohol in people aged 15 years and older, adjusted for tourist consumption.

**Universal proportionate model.** Model of interventions or policies that are available to everyone but are delivered with a level of resources and intensity of action that is greater for those individuals or groups that have a greater level of need.
Executive summary

Rational and purpose

In 2019 people in Belgium could enjoy a life expectancy of 82.1 years, on average, but this varied between men and women and between regions (Brussels-Capital, Flemish and Walloon Regions). Furthermore, more than one fifth of the population lived with a disability due to a chronic disease. Nine out of 10 deaths in Belgium are attributed to noncommunicable diseases (NCDs). Nearly 40% of these NCD deaths are attributed to modifiable risk factors, such as tobacco, alcohol, dietary risks, physical inactivity and environmental risks. The inequities gap in ill health related to NCDs was widening before the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, causing COVID-19), and even more so during the pandemic. There are 30% fewer people who identify as being in “good” or “very good” health in the lowest income quintile (Q1) relative to the highest income category (Q5). This gap linked to income is the second highest when comparing Belgium with Austria, Denmark, France, the Netherlands, Switzerland and the United Kingdom.

This prompted a need to identify the challenges and explore options to improve health and well-being and narrow the gap in health inequities in Belgium. Following a request by the Federal Public Service Health, Food Chain Safety and Environment (FPS Health), this review was conducted by the WHO Regional Office for Europe in collaboration with federal and federated health services in Belgium to provide an independent view of the current situation, the challenges and the future policy options focusing on prevention of NCDs and related inequities.

Current challenges in Belgium

• While Belgium has shown success in overall reduction in premature mortality due to NCDs, primary prevention of NCDs needs greater priority.
• Tobacco causes the highest NCD burden in Belgium. While men in Belgium have shown an overall reduction in smoking prevalence, mortality rate due to lung cancer remains the highest in the Region. Smoking prevalence is graded by income quintile and, for women over 55 years and in people in the lowest income quintile, shows no apparent reduction, with consequent increases seen in lung cancer and chronic obstructive pulmonary disease (COPD).
• Alcohol per capita consumption (APC) reduced in Belgium by 5.4% between 2010 and 2019, but there were no changes between 2017 and 2019. Hazardous drinking (> 20 g/day of ethanol by women, > 40 g/day of ethanol by men) among adolescents and youth has increased over time. While people in lower income quintiles had reduced alcohol consumption over the years, the gap in the alcohol-attributable disease burden between the highest and lowest quintiles had widened, increasing the inequities in health.
• Overweight and obesity have increased over the years in Belgium but at a lower rate than that seen in neighbouring high-income countries. While obesity rates are higher in the lowest income quintile, they have declined this quintile while increasing in all other income quintiles. While poor dietary habits are higher in those younger than 24 years, these habits have shown improvements over the years.
This compliments the nutrition policies put in place since the late 2000s. Similarly, while Belgium has successful policies to promote physical activity, they are not effectively in reaching the most vulnerable populations, including elderly people, those unemployed and people in detention.

- Across Belgium, exposure to environmental risks, such as air pollution, noise, inadequate urban environments or low-quality housing, represents a significant health risk. Evidence shows that environment risk exposure is unequally distributed in urban areas and areas with less-affluent populations most affected.

- Despite strong universal policies and services, the data shows that many of those falling behind do not have access to or are unable to afford the resources and services to adopt the recommended lifestyles as prescribed in the 10 best buys, for example safe green spaces or affordable healthy food. In addition, poor health, poverty and low literacy co-exist. It is common that those falling behind use most of, or exceed all of their income to meet basic needs such as housing, food and healthcare. This leads to the higher incidence of poor mental and physical health, which in turn increases the risk of social exclusion, poverty and low trust in institutions. Current policies and services are not well designed to remove or prevent these barriers and the equity impact of health, economic, social and development policies is not routinely used. This has created pockets of health and social inequities between different areas even within the same regions.

- There are currently ‘limited spaces’ for effective coordination of policies and services among those working in the health sector and with other sectors across government. This is a barrier to increasing the impact of all policies in reducing health inequalities.

Recommendations

Considering these findings, WHO proposes the following four overarching policy recommendations to achieve better health outcomes on NCDs in Belgium leaving no one behind.

1. **Promote strategic leadership and political commitment**
   - Align all entities with a common goal to reduce preventable diseases, premature deaths and to narrow the gap in inequities through a Health in All Policies approach.
   - Strengthen joint budgeting and accounting through a whole-of-government approach based on harmonized goals, objectives and targets for health.
   - Adopt governmental rules and regulations to limit unsuitable influence on public health policies.

2. **Ensure supportive environments to enable healthy choices that reduce harm and health inequities**
   - **Tobacco control** measures to consider are:
     - raising tobacco taxation;
     - implementing a full package of cessation programmes at best practice levels to support women and groups of low socioeconomic status (SES);
     - enforcing a complete ban on tobacco use (including e-cigarettes) in all indoor public places, workplaces and public transport; and
     - discouraging the use of designated smoking rooms.
   These measures should be particularly enforced in low SES communities.
Alcohol control measures to consider are:
- reducing the affordability of alcohol by increasing taxation and considering introduction of new pricing policies such as minimum unit pricing to further reduce consumption among the heavy alcohol consumers and low SES groups;
- banning late night off-premises alcohol sales to reduce consumption by heavy drinkers and the young; and
- increasing the minimum age of purchasing and consuming alcohol of all beverage types to 18 years.

Nutrition measures to consider are:
- comprehensively adopting the breastfeeding code and ensuring breastfeeding support especially for mothers in low SES groups;
- introducing requirements for maximal salt levels in all commonly consumed high-salt foods;
- making front-of-pack labelling mandatory for all food products; and
- conducting public awareness campaigns to ensure that the consumers are equipped to understand the food products.

Physical activity measures to consider are:
- strengthening intersectoral coordination to promote health-enhancing physical activity (HEPA); and
- ensuring physical activity policies also target those most vulnerable and who might have been left out, such as low SES communities, very elderly people (>85 years), refugees, migrants, unemployed people and people in detention or prisons.

Environmental risk measures to consider are:
- strengthening knowledge and skills on a One World One Health approach;
- increasing taxation to support a healthy environment;
- developing a national strategy to promote and enforce environmental impact assessments at all spatial levels; and
- identifying areas and population groups with increased exposure to environmental harm and target measures to reduce their exposure.

3. Focus on putting people and their well-being at the centre of all policies and decision-making, including those directly targeting NCD prevention and risk factors

- Systematically use social value accountability mechanisms, for procurement, commissioning, budget prioritization and evaluation to prioritise regions and department lagging behind. The basis for this can be derived from health equity impact assessments.
- In policy design and implementation use cultural and behavioural insights and participatory planning methods that involve left-behind communities and their advocates.
- Establish mechanisms (Interministerial task force, a cross party committee on healthy and prosperous lives for all) for policy coherence and political support for health equity and wellbeing as societal goals. This should be supported by a small and dedicated resource unit providing evidence and analysis for strategic advocacy and communicating with the public.
- Apply a proportionate universal lens when developing all policies, laws, regulations and guidance including those related to social welfare and taxation.
- Design public health services and interventions in a manner to empower users and support building the trust in institutions.
4. **Monitor and evaluate progress on improving health, the environment, the economy of well-being and inequities in public goods for health**

- Set health targets and identify indicators aligning with the NCD global monitoring framework and the Sustainable Development Goals (SDGs) to fulfil the commitments made at the United Nations General Assembly.
- Monitor the impact of policies, especially the extent to which deprived and vulnerable groups can make healthy choices.

**Conclusions**

The gap in health inequities in Belgium has widened since the late 2000s, with most of the additional disease burden attributable to modifiable risk factors that can be impacted by effective policy choices. However, policy change cannot be achieved by a single government authority but requires intersectoral partnerships for sustainable solutions. The cornerstones for achieving healthy population-level policies are strategic leadership and political commitment that identifies the importance of overall health improvement leaving no one behind. Partnerships need to be developed with other ministries and stakeholders around shared objectives; this would include ministries in charge of the environment, social affairs and finance. Ultimately, adopting a Health Equity in All Policies approach will lead to improved health and well-being for all in Belgium.
Background
In 2019 people in Belgium enjoyed 82.1 years of life expectancy from birth. However, this varied between men and women and between regions (1). Surveys also showed that a woman in Belgium spends nearly a quarter of her life, and a man one fifth of his life, with a long-lasting disability due to a chronic condition (Fig. 1). Over the years from 2011 to 2019, while longevity increased by 1.7%, healthy life expectancy had stagnated at 62 years (2).

**Fig. 1.** Life expectancy and healthy life expectancy, 2019

![Chart showing life expectancy and healthy life expectancy](chart.png)

**Notes:** LE: life expectancy; HLE: healthy life expectancy.
Source: European Commission (1,2).

While the average life expectancy at birth is similar to other high-income neighbouring countries, as shown in Fig. 1, inequities in self-reported health were shown to be comparatively high in Belgium (Fig. 2). There were 30% fewer people in the poorest income quintile who reported that their health status was either “good” or “very good” in 2021 compared with people in the richest income quintile (3). Belgium is second highest behind Germany.
Within Belgium, inequities are attributed to income, age, gender and the region of residence. In 2019 people in Walloon Region lived, on average, two years less than those in the Flemish Region (4). Similarly, premature mortality rates and mortality rates of the most common causes of deaths, for example ischaemic heart disease (IHD) and lung cancer, are higher in the Walloon Region than in the other two regions (5).

### 1.1 The role of NCDs

In 2019 NCDs contributed to 86% of total mortality and 84% of total disability-adjusted life-years lost in Belgium (6). Nearly 50% of these deaths and 37% of the disability-adjusted life-years lost can be attributed to behavioural risk factors such as tobacco and alcohol consumption, poor dietary habits, physical inactivity and environmental pollution.

In 2020 life expectancy was reduced in many countries as a result of the COVID-19 pandemic. Belgium showed a loss of 1.2 years in life expectancy, one of the highest among the neighbouring high-income countries (for example, in the United Kingdom the loss was 1.9 years and in Austria, France and the Netherlands it was 0.7 years) (1). Global literature suggests that people living with diabetes, hypertension, IHD or obesity, or exposed to air pollution, have an increased risk of death with COVID-19 (7,8). Moreover, research from Belgium showed that the risk of death with COVID-19 was very heterogeneous across the country, mainly affecting poorer regions (9).
NCDs have also been shown to worsen health inequities. From 2008 to 2018 common NCDs [myocardial infarction, diabetes, COPD and cirrhosis] have widened the gap in health inequities, as shown by self-reported prevalence in the poorest (Q1) and richest (Q2) income quintiles in Belgium (Fig. 3) (10).

**Fig. 3.** Prevalence of NCDs in people in the poorest income quintile (Q1) and richest quintile (Q5), 2008 and 2018

These data indicate that reducing the burden of NCDs by preventing and controlling modifiable risk factors of tobacco, alcohol, nutrition, physical inactivity and environment pollution could contribute significantly to regaining the lost years of life expectancy seen in 2020 and improving healthy life expectancy. Reducing the gap in inequities should involve health and non-health actors. While targeted action on NCDs and NCD risk factors by the health sector can narrow the gap in inequities, the deep-rooted inequalities in society linked to income, occupation, education and gender need close partnerships with non-health actors for a sustainable response.

This review looked at the broader needs of society to improve the quality of life and to reduce inequities by focusing on NCD prevention and addressing social determinants. It generated 21 recommended policy considerations. Although mental health is considered a priority NCD for Belgium, due to difficulties in allocating resources, a review of mental health and its risk factors was not included in this report.
Methodology
The review was carried out by a technical working group from the WHO Regional Office for Europe in collaboration with the Belgian federal and federated administrations from September to December 2021. Existing country data over a period of 10 years were analysed to determine the progress made in achieving the SDGs related to NCDs and the outcomes and targets of the NCD global monitoring framework [Fig. 4] (11). A country mission was conducted online, with nearly 40 participants from Belgian authorities representing federal and federated administrations, representatives from the Ministries of Finance, Employment and Social Affairs, as well as representatives from academia and scientific research institutes. During the country mission, presentations were conducted by these stakeholders followed by group discussions. A few separate follow-up interviews were conducted where more details were needed. Finally, to gain consensus and support for the policy recommendations, an advocacy workshop was conducted in Belgium with the participation of federal and federated public health stakeholders and scientific institutes.

Fig. 4. NCD global monitoring framework outcomes and targets

1. A 25% relative reduction in the overall mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases (SDG)
2. At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context (SDG)
3. A 10% relative reduction in prevalence of insufficient physical activity
4. A 30% relative reduction in mean population intake of salt/sodium
5. A 30% relative reduction in prevalence of current tobacco use (SDG)
6. Halt the rise in diabetes & obesity (SDG)
7. A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances
8. At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes
9. An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities

Source: WHO (11).

Across the WHO European Region, barriers to accessing health care and the affordability, availability and quality of public goods for health are statistically significant in explaining inequities in NCDs (Fig. 5). This review focused on the public goods for health that are essential for a healthy life. Inequalities and their role in determining population health were described using the dataset of health indicators in the WHO Health Equity Status Report initiative (12), which is based on the 2019 WHO European Health Equity Status Report (13). The inequalities in NCD risk factor prevalence with age, sex, income, education and place of living were described using Health Interview Survey data. Environmental dimensions of inequalities were based on the data compiled for the second Environmental Health Inequities Assessment Report (14) and recent updates published in the form of environmental health inequality fact sheets (15).
The datasets extracted for Belgium were compared with a set of countries agreed by the Belgian Steering Group, which are comparable in terms of economic development and proximity to Belgium. The comparison group included Austria, France, Germany, the Netherlands and the United Kingdom.

Current policies in place were reviewed using a list of evidence-informed best buy policies (evidence-informed, cost-effective and high-impact public policy measures) identified for each NCD risk factor based on WHO recommended policy tools: the country capacity survey for prevention and control of NCDs (16); the MPOWER measures for tobacco control (17); the best buy policies for alcohol (18); the European Action Plan to Reduce Harmful Use of Alcohol 2012–2020 (19); the European Food and Nutrition Action Plan 2015–2020 (20); the country support package to reduce population salt intake in the WHO European Region (21); the international code for marketing of breastmilk substitutes (22); and the physical activity strategy for the Region (23).

Health equity policies were analysed in two areas: direct action by the health sector to equity-proof their curative, preventive and promotional services, programmes and interventions and areas of joint action with other sectors and partners (including those left behind and their advocates) to remove barriers and increase the distribution and impact of public goods for health and well-being, many of which are the direct responsibility of or are co-produced with other sectors and stakeholders in society. The objective was to identify ways to improve the design and targeting of health and multisectoral policies to increase their equity impact as described in this report.

Detailed methodology and the indicators used in the analysis are provided in supplementary material that is available on request. Please email ncdoffice@who.int.
3

NCDs and social determinants
This section describes the main trends seen in Belgium for NCDs, their risk factors and social determinants. Public goods for health and the structural, social and political forces that produce health of the population are also explored.

### 3.1 Trends in NCDs

Analysis of mortality over the lifespan up to 70 years (Fig. 6) indicates that self-harm is the top cause of death in men in their late twenties to early forties (24). By the late forties, cardiovascular diseases, which includes IHD and stroke, becomes the top cause of death and this continues through older ages. Lung cancer and chronic liver disease, including cirrhosis, become the next two prominent causes of death. Women follow the same pattern, with self-harm being the predominant cause of death in their late twenties up to late thirties and IHD being the predominant cause of death from late forties to older ages. Breast cancer become the second predominant cause of death in women in their forties, but by 60 years of age lung cancer becomes the second predominant cause of death.

**Fig. 6.** Distribution of mortality rates in (a) males and (b) females from birth to 70 years, 2019

Source: European Commission (24).
SDG Target 3.4 calls for reduction by a third in 2030 from the baseline level in 2015 for the risk of premature death (in those aged 30–70 years) from NCDs (cardiovascular diseases, chronic respiratory disease, cancer and diabetes). Out of the total NCD-related deaths in Belgium, one fifth occurs in this premature age group. From 2010 to 2019, the probability of dying prematurely from the four main NCDs reduced in Belgium by 1.9% each year, with a 2.2% annual reduction among men and a 1.5% annual reduction among women; this is meeting the expected rate of average annual reduction required to achieve the overall goal (25). The NCD risk factors are attributed to these top causes of deaths in varying degree. The average attributed risk in Belgium is shown in the Table 1.

Table 1. Deaths in people under 70 years attributable to common modifiable risk factors in Belgium, 2019

<table>
<thead>
<tr>
<th>NCD</th>
<th>Tobacco</th>
<th>Alcohol</th>
<th>Diet</th>
<th>Physical activity</th>
<th>Environmental risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>75</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>COPD</td>
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<td>27</td>
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<td>Chronic liver disease</td>
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<td>Self-harm</td>
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<td>0</td>
<td>0</td>
<td>–</td>
</tr>
<tr>
<td>Diabetes</td>
<td>21</td>
<td>0</td>
<td>35</td>
<td>9</td>
<td>23</td>
</tr>
</tbody>
</table>

*Totals will not add up exactly to 100% because more than one factor may contribute to mortality.
Source: IHME (6).

Despite achieving the premature mortality target, achieving the NCD risk factor targets set for the SDGs and NCD global monitoring framework seems to fall short. From 2010 to 2018, the age-standardized prevalence of tobacco use decreased in Belgium by 7.4%: 10.3% in men and only 3.7% in women (26). By 2025 it is estimated that a 25% overall relative reduction in tobacco use will be achieved, falling short of the NCD global monitoring target of 30% relative reduction of tobacco use from baseline levels in 2010 (27). APC in those aged 15 years and older in Belgium in 2019 was estimated to be 10.8 litres of pure alcohol (28). Although this was a 5.4% relative reduction from 2010, there was no reduction in APC from 2017 to 2019, indicating that Belgium may not reach the 10% relative reduction target in APC by 2025 set in the NCD global monitoring framework.

Overweight and obesity have been increasing in Belgium as with the other Member States of the WHO European Region. Although Belgium had a higher prevalence of overweight and obesity [defined as a body mass index of ≥ 25 kg/m² and ≥ 30 kg/m², respectively] in 2010 compared with many of its neighbouring countries, the rate of increase in prevalence has been the lowest (29,30). However, based on current trends, Belgium will be unable to achieve the global monitoring target of halting the rise of obesity by 2025. Data on physical activity levels and salt consumption did not allow any estimation of progress towards achieving the set targets.

Across Belgium, exposure to environmental risks, such as air pollution, noise, lack of access to green spaces and low-quality housing, has generated significant health concerns. In 2021 the Organisation for Economic Co-
operation and Development (OECD) Environmental Performance Review revealed that Belgium had made progress in mitigating several environmental pressures from economic growth and gross domestic product (GDP) over the previous decade. However, progress remains insufficient, and the review concluded that Belgium is not on track to achieve SDG 13 on climate change by 2030 (31). Greenhouse gas emissions are a most relevant feature of air pollution, with global rather than local implications. Transport has been identified as the largest cause of these emissions as of 2018, followed by the residential sector and industrial processes. A recent assessment of the national target implementation, published by the OECD in 2021, revealed that greenhouse gas emissions had only reduced by 11% since 2005, falling short of the 15% reduction target for 2020 and a critical gap to the 2030 target of a 35% reduction (31). In 2016, 13% of the Belgian population reported difficulties in accessing green or recreational areas (32). Access to green spaces provides opportunities for an active lifestyle and will, therefore, also help to protect against overweight and obesity and increase well-being.

These findings indicate that, while Belgium has been successful in achieving the overall outcomes of controlling mortality by NCDs, there is much progress to be made in primary prevention of NCDs, which will have higher benefits in reducing disability and inequities and will be cost saving by reducing healthcare and economic costs due to ill health. A deeper analysis of the determinants of NCD risk factors in the population is presented below to shed more light on policy options that would support primary prevention and reduce inequalities.

### 3.2 Social determinants and NCD risk factors

#### 3.2.1 Tobacco

Prevalence of smoking is higher in men than in women (33). However, smoking prevalence reduced from 2008 to 2018 in adolescents and young men and in men over 45 years. Among women, prevalence of smoking in those aged over 55 years has changed little over the years. Prevalence of heavy smoking (more than 20 cigarettes per day) was higher in women over 65 years in 2018 compared with 2008, while it had reduced among men in all age groups (Fig. 7) (34).

**Fig. 7.** Age-specific prevalence of current smokers and heavy smokers among (a) men and (b) women in Belgium, 2008 and 2018

Source: Sciensano (33,34).
These trends were reflected in the occurrence of lung cancer observed in men and women. In 2019 there were 5964 new cases of lung cancer diagnosed in men and 3250 in women in Belgium (35). Although lung cancer incidence is showing a reducing trend in men over time in Belgium and in other comparison European Union (EU) countries (36), mortality rates have remained the same in women in Belgium (Fig. 8).

**Fig. 8.** Age-standardized death rates from lung cancer per 100 000 population in (a) men and (b) women in Belgium, seven other EU Member States and Switzerland, 2011–2018

The Flemish Region has the lowest prevalence of tobacco smoking (21.8% in men and 12.6% in women) while the Brussels and Walloon Regions showed a higher prevalence (27.6% in men and 16.3% in women in Brussels; 26.9% in men and 17.0% in women in Walloon).

People in the lowest income quintile smoke twice as much as people in the highest income quintile. Furthermore, prevalence of smoking in the lowest income quintile remained relatively unchanged over the decade from 2008 to 2018, while it reduced in all other income groups (33). This trend was also seen in the smoking prevalence in adolescents and young people (15–24 years). Smoking prevalence reduced by 53% in adolescents and young people in the highest income quintile from 2008 to 2018, while it reduced by only 4% in the lowest income quintile (22). Only 65% of daily smokers in the lowest income quintile had made attempts to quit smoking, while 82% in the middle-income quintile had made quit attempts (37).

Although data regarding socioeconomic inequities in lung cancer morbidity were not available, self-reported prevalence of chronic bronchitis, COPD and emphysema extracted from the Health Interview Survey data
is used here as an approximate indicator to show the inequities of outcomes of tobacco use (Fig. 9) (38). People in the lowest income group smoked nearly 2.5 times more than those in the highest income group, but the prevalence of chronic bronchitis, COPD and emphysema was nearly five times higher than among people in the highest income group.

Fig. 9. Age-standardized prevalence of (a) current smokers and (b) COPD, chronic bronchitis and emphysema in those aged 15 years or older by income quintile, 2008 and 2018

<table>
<thead>
<tr>
<th>(a) Current smokers</th>
<th>(b) COPD, chronic bronchitis and emphysema</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Graph" /></td>
<td><img src="image2" alt="Graph" /></td>
</tr>
</tbody>
</table>

Notes: Q1: lowest income quintile; Q5: highest income quintile.
Source: Sciensano (33,38)

This analysis indicates that smoking prevalence remained relatively unchanged among adolescents and young adults of the lowest income quintile and that there are significant differences between the regions, with the Brussels and Walloon Regions reporting a higher prevalence of tobacco smoking than the Flemish Region. These will widen the gap in health inequities unless more effective and impactful policies are adopted.

3.2.2 Alcohol

Men in Belgium consumed three times as much alcohol as women, with an APC of 16.7 litres in men and 5.1 litres in women in 2019 (39). Considering only the drinkers, APC among men had increased to 22.3 litres in 2016 (40). Heavy episodic drinking (HED; six or more standard drinks on at least one occasion in the past 30 days) was also seen twice as much in men than in women (41).
HED is most prevalent in those aged 15–24 years (45% of men and 29% of women)\(^\text{[41]}\). The percentage of the population with daily hazardous drinking (> 20 g pure alcohol in women and > 40 g in men) has shown an increasing trend in those aged 15–45 years in both sexes (Fig. 10). This indicates the need for more-vigilant strategies targeting adolescents and youth\(^\text{[42]}\).

**Fig. 10.** Age-specific prevalence of hazardous drinking in men and women aged 15–45 years in Belgium, 2013 and 2018

As data on standardized mortality figures for alcohol-attributable cirrhosis are not available in many of the countries studied, mortality rates for chronic liver disease (which includes cirrhosis as a major contributor) were used as an indicator to show outcomes due to alcohol consumption trends (Fig. 11). Belgium shows a slight increase in mortality rate from 2011 to 2018, implying that it is likely a consequence of increasing trends of alcohol consumption, especially in the vulnerable groups\(^\text{[5]}\).

**Fig. 11.** Age-standardized death rates in men for chronic liver disease (including cirrhosis) per 100 000 population in Belgium, seven other EU Member States and Switzerland, 2011–2018

Source: European Commission\(^\text{[5]}\).
People in the highest income quintile showed the highest rates of HED (32%) while rates were lowest in the bottom income quintile (19%). Daily hazardous drinking followed the same pattern, with richer quintiles (Q4 and Q5) showing a higher prevalence than the lowest (Q1). Similarly, HED and daily hazardous drinking are more common in those with the highest level of education than in those with the lowest level (41,42). However, the harm assessed as prevalence of cirrhosis showed that people in the lowest income quintile are at least five times more likely to be living with cirrhosis than those in the richest quintiles (Fig. 12) (43). Many studies have shown this relationship, which is known as the alcohol harm paradox (44). The literature suggests that clustering of other comorbidities and risk factors in the low SES groups and poorer access to health care may be some of the reasons. It is also shown that, while a higher proportion of people in the low SES groups are likely to be abstainers or light drinkers, others are likely be extreme heavy drinkers; this results in a lower average consumption yet higher burden due to the cumulative effect of circumstances faced by low SES groups (44).

Fig. 12. Age-standardized prevalence of [a] HED in the previous month and [b] chronic liver disease (including cirrhosis) by income quintile in those aged 15 years and older, 2013 and 2018

Notes: Q1 to Q5: lowest to highest income quintiles. 
Source: Sciensano (41,43).

A much higher reduction in consumption in the lower SES groups is required to achieve a significant reduction in the alcohol-related harm and reduce the gap in inequities. Consequently, policies that are more sensitive to reducing heavy consumption, and that are more sensitive to the lower SES groups, should be prioritized.
3.2.3 Nutrition

According to self-reported data, nearly half of the population aged over 18 years in Belgium was overweight in 2018, with the Walloon Region having a higher prevalence of overweight and obesity than in Brussels or Flemish Regions (45,46). In all regions, men were more obese and overweight than women in all age groups. Data for children are only available for the Flemish Region; in 2015, 13.3% of 6-year-old children were overweight and 3.5% were obese, while 16.9% were overweight and 4.1% were obese among those aged 14 years (47).

Children aged 6–14 years showed a higher prevalence of more unhealthy nutritional habits relative to other age groups: in 2018, 90% of these children were not consuming the daily recommended amounts of fruit and vegetables (48); nearly 50% had consumed sugary or salty snacks daily and 20% had consumed sugary drinks daily (49,50). Although there was a one third reduction in the daily consumption of sugary drinks in this age group in 2018 compared with 2013, consumption of sugary and salty snacks did not reduce significantly (Fig. 13).

**Fig. 13.** Age-specific prevalence of daily consumption of (a) sugary drinks and (b) sweet and salty snacks, 2013 and 2018

In 2018 the proportion of people consuming the daily recommended amounts of fruit and vegetable was lowest in the lowest income quintile (48). While the daily sugary drinks consumption is still higher in the lowest quintile, this group showed the highest reduction in consumption between 2013 and 2018 (49). Similarly, daily consumption of sugary and salty snacks showed the greater reduction in the lowest income quintile (50).
Data from the Flemish Region showed that obesity is consistently higher in the children from economically vulnerable groups. In 2015 for 6-year-old children, 25.7% of those who were economically vulnerable were overweight relative to 12% of those who were not vulnerable; For those aged 14 years, 33% of those who were economically vulnerable were overweight relative to 15.9% of those who were not vulnerable (47). However, in contrast to other risk factors, self-reported obesity in adults, although still higher in the poorest income quintile relative to the richest, showed a declining trend in the poorest income quintile while the richer quintiles showed an increasing trend (Fig. 14) (46). This implies that nutritional policies may have been more equitable in comparison to alcohol and tobacco policies.

**Fig. 14.** Age-specific prevalence of daily consumption of [a] sugary drinks and [b] sweet and salty snacks, plus [c] self-reported obesity by income quintile, 2013 and 2018

<table>
<thead>
<tr>
<th>Income quintile</th>
<th>2013</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>35%</td>
<td>30%</td>
</tr>
<tr>
<td>Q2</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>Q3</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Q4</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Q5</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Note:** Q1 to Q5: lowest to highest income quintile.  
**Source:** Sciensano (46,49,50).

In the Flemish Region in 2020, 84% of newborn children were breastfed in the first 24 hours. At 6 months, 31% were still breastfeeding, but only 10.7% of mothers exclusively breastfed their babies. However, 48% of babies with a mother of non-Belgian origin were breastfed at 6 months as opposed to 24% of babies with a Belgian origin mother. In Walloon and Brussels Regions, 72.4% of mothers had breastfed in the first week but this reduced to 37.8% at 3 months. These data were obtained from expert opinion during the country mission, and it was difficult to obtain comparable statistics in the regions to make further meaningful comparisons.
3.2.4 Physical activity

Just over half of the population aged 18 years and older in Belgium (56%) carries out the minimum recommended levels of physical activity (150 minutes of at least moderate intensity aerobic physical activity per week) [51].

Men aged 18–55 years were more physically active and more likely to achieve the minimum recommended levels of physical activity than women in the same age group (35.9% and 24.7%, respectively). In older age groups, there was little difference between men and women. There was an observable difference related to income quintile, with 63% of those in the highest income category meeting the daily required physical activity levels compared with 37% in the lowest income group. This is despite the fact that 61% of those in the highest income group were more likely to be in sedentary jobs compared with 38% in the lowest income group. Similarly, while 58% of people in the highest education group met the physical activity recommendations, only 35% of those in the lowest education group were able to fulfil the required physical activity levels [51].

Regional variations were seen also, with 64% in the Flemish Region meeting the required physical activity levels while only 46% in the Walloon Region and 42% in the Brussels Region did so [51], indicating the need for more geographical awareness in physical activity policy.

3.2.5 Environmental pollution

Data on air pollution from urban background monitoring stations suggest that Belgian pollution levels exceeded the standards set by the Ambient Air Quality Directive for particle pollution (PM$_{10}$: particles ≤ 10 μm) and ozone for various days (average for 2019–2021). The air pollution levels do not comply with the 2021 WHO Air Quality Guidelines values, especially for PM$_{10}$ and nitrogen dioxide (Table 2) [52]. Belgium is estimated to have about 15.34 air pollution-related deaths per 100,000 population as of 2019 (19.40 in males and 11.90 in females) exceeding rates in France (10.30) and the Netherlands (13.15) [53].

Table 2. Air pollution data from urban background monitoring stations (annual averages for 2019–2021) and related mortality

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Pollutant level (μg/m$^3$)</th>
<th>Average number of days per year when EU standard level exceeded</th>
<th>EU limit/target values level (μg/m$^3$)</th>
<th>WHO guideline values (2021) level (μg/m$^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual mean</td>
<td>Daily maximum</td>
<td>24-hour</td>
<td>Annual</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>20.1</td>
<td>34.2</td>
<td>7.6 days with levels &gt;50 μg/m$^3$</td>
<td>50*</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>11.2</td>
<td>50.4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>23.2</td>
<td>64.7</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ozone</td>
<td>54.9b</td>
<td>110.9</td>
<td>9.9 days at &gt;120 μg/m$^3$</td>
<td>Maximum daily 8-hour mean, 120</td>
</tr>
</tbody>
</table>

*Not to be exceeded on more than 35 days/year.

*Mean provided for the summer period instead of an annual mean.

Source: European Environment Agency [52].
Air pollution in Belgium is distributed unequally. The levels of PM$_{2.5}$ were 1.4 times higher in urban areas of Belgium than in rural areas in 2016 (52). According to 2019 estimates, almost all residents living in metropolitan areas of Belgium are exposed to PM$_{2.5}$ concentrations above 10 µg/m$^3$; the smallest prevalence of 94.7% was estimated in Liège.

Another environmental challenge in densely populated and highly developed countries is noise exposure, largely driven by transportation. Noise annoyance is an increasing problem in Belgium especially in dense urban settings, where 13% are exposed to unacceptable noise levels above 70 dB Lden (day–evening–night noise level) (54). In 2016 the percentage reporting major noise problems was twice as high among people in the lowest income group than in people in the highest income group (16% and 8%, respectively). Similar inequality patterns are observed in France and the Netherlands, but Belgium shows the highest absolute levels for all income groups (Fig. 15) (55).

**Fig. 15.** Percentage of the population reporting major noise problems in Belgium, France and the Netherlands by income quartile, 2016

<table>
<thead>
<tr>
<th>Income quartile</th>
<th>Belgium</th>
<th>France</th>
<th>Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Q2</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Q3</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes: Q1: lowest income quintile; Q4: highest income quintile. Source: Eurofound (55).

Eurofound’s European Quality of Life Survey (55) found that 13% of the Belgian population reported difficulties in accessing green or recreational areas. The greatest difficulty in accessing green and recreational areas was reported among residents over 65 years of age (18%) as well as for unemployed people (15%) and low-income citizens (15%); only 10% of high-income citizens reported poor access.

Belgium (Flanders) exhibits a particularly high level of potentially contaminated and contaminated sites. Such sites represent a significant threat for polluting not only the environment but also drinking-water and 

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NCDs and social determinants
food items with chemicals or heavy metals, causing a variety of diseases and health impacts. According to the European Environment Agency, about one third of the contamination in Belgium (Flanders) has been caused by oil handling and refining within industrial and commercial activities. Petrol stations are major contributors to contamination and account for more than 20% of site contamination. The main contaminant categories in Belgium are mineral oils and heavy metals.

A more detailed analysis on environmental health context in Belgium is available on request. Please email to ncdoffice@who.int.

3.2.6 Summary of NCD risk factors

The behavioural risk factors and their effects tend to be unequally distributed among gender, income, education and the region of residence. Environmental risks also tend to be unequally distributed, being higher in urban areas and in areas with less-affluent populations. This illustrates that the environment within which people live plays a vital role in supporting them in making daily choices.

3.3 Public goods for health

This section discusses the public goods for health that create the environment that people live in. As in the EU and other developed nations, Belgium has persistent and emerging health inequities that also mirror social and economic inequities and levels of inclusion/exclusion in social cultural and economic aspects of life.

3.3.1 Spatial and geographical inequalities

There are marked inequalities in premature mortality at district level in Belgium and this section identifies how these inequalities are intimately linked to concentrations of social and economic inequalities (such as unemployment, poverty, education or social capital), which are discussed in more detail later in this section. The socioeconomic characteristics of a district affects its mortality rates and the geographical distribution of disadvantage contributes to regional and national patterns of disadvantage and premature mortality.

There are marked inequalities in premature mortality at district level in Belgium (Fig. 16) [56]. This subsection identifies how these inequalities are intimately linked to concentrations of social and economic inequalities discussed in more detail later in the report (such as unemployment, poverty, education and social capital). The socioeconomic characteristics of a district affects its mortality level, and the geographical distribution of disadvantages contributes to regional and national patterns of disadvantages and premature mortality. While most districts in the Flemish Region experience a lower premature mortality rate than the Belgian average, the reverse is observed in Brussels and all districts in the Walloon Region, except for Nivelles. The highest premature mortality rates for men are observed in three districts of the province of Hainaut (Charleroi, Mons and Tournai). For women, it is several districts in the provinces of Hainaut, Namur and Liège. Charleroi District, previously the centre for the coal-mining, iron, steel and engineering industries, has a high premature mortality for both men and women.
Fig. 16. Age-standardized premature mortality per 100,000 population for men and women by district in Belgium, 2010–2017

Source: Sciensano (Bel).
These geographical health inequalities are experienced predominantly by those groups in the population who have reduced access to quality and secure income and employment opportunities and who have failed to remain active in the labour market due to major economic crises and structural changes in the domestic economy. This is illustrated at a provincial level in Fig. 17.

**Fig. 17.** Risk of monetary poverty by provinces in Belgium, 2019

An earlier analysis, at district level, showed that estimated levels of poverty are even more highly geographically segregated in Belgium [Fig. 18], with a pattern that is similar to recent premature mortality shown in Fig. 16. Most districts with poverty rates estimated to be above 13% are in the Walloon Region, with concentrations of poverty in the former coal-mining basin and on the border areas with France to the south of Charleroi. Poverty levels are high in Hainault Province, with a large population of former coal miners and industrial labourers and their descendants. Some districts in Brussels are also estimated to have high levels of poverty; these areas notably include migrants and their descendants. The disadvantage experienced by some migrant groups, for example, is illustrated by a linkage of low levels of education with migrant status. The proportion of migrants with the lowest levels of education is highest among those born outside the EU (40%) and least (but still 20%) among those born in Belgium [57]. The implications of low levels of education are discussed in more detail section 3.3.4.
There are also geographical variations in education status and employment, both of which are linked to poverty and can create significant barriers in accessing services and navigating support and help. In 2019 the male unemployment rate was highest in Brussels (13%), followed by Walloon Region (8%). At a province level, the rate was highest in Hainault Province (10%), with rates higher in all the provinces in Walloon Region than in those in Flanders (60).

### 3.3.2 Employment

Variations in employment rates are likely to reflect experiences, such as being a migrant or a descendant of a migrant, living in areas where industries such as coal mining have been lost or living where investment in upskilling and new economic sectors has not been planned or is inadequate. Among young people aged 20–34 years, not being in employment, education or training is potentially harmful to their mental health, their future physical health and their lifelong access to public goods for health (12). Among women aged 20–34 years, this figure has consistently been around 50% for those with low levels of education compared with 20% for those with a medium level of education (Fig. 19). The comparable figures for young men of this age have been 30–35% and slightly over 10%, respectively (12,60).
An emerging risk to closing gaps in NCDs is associated with exposure to temporary work. The phenomenon of being in temporary work has increased in Belgium more than in most other countries of 15 Member States of the EU prior to 2005 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom) [61]. Temporary work is also more common among women than men and is higher among those with low levels of education for both women and men.

3.3.3 Poverty

Relative poverty, household deprivation and barriers to learning are key to explaining health inequities across the lifetime of Belgians. As indicated in Figs 17 and 18, one of the key factors that reduces the ability of children to be healthy, ready to learn and able to benefit from the educational system is being brought up in poverty. In Belgium, 37% of children aged under 18 years and with parents who were born outside the country were at risk of poverty, compared with 10% for those whose parents were born in Belgium [59,61].

Poverty affects the ability to eat a nutritious diet, to live in an affordable warm and safe home that is maintained and to participate in extracurricular learning and social activities. These are all necessary for the physical and emotional development of young children and for their learning during early years and at school. These multiple disadvantages in the early years of life, if not mitigated, shape the future mental and physical health of adults, their ability to participate in the labour market and their future income security.
3.3.4 Inequities in education, health literacy and social capital

Living in a poor household with low health and education levels creates a significant barrier in accessing services and navigating support and help. For example, it is a barrier to negotiate government systems and organizations to obtain health insurance and other forms of social protection. The combination of poor health and poor education also undermines literacy and numeracy skills, which are needed to make informed health and life choices, in addition to benefiting from digital innovation in health and work opportunities. This is reflected in data showing that those with lower income levels in Belgium are more likely to report lack of trust in others than those with the highest incomes; around 80% of men and women with low levels of education felt they had no ability to influence politics, compared with 63% of women and 54% of men with high levels of education. This lack of agency is a recipe for social exclusion as meaningful participation in society, trust in others and the ability to influence decisions are strong contributors to individual and social resilience, lower levels of NCD morbidity and good mental health (12).

The impact of living with multiple disadvantages on a day-to-day basis can mean that making healthy choices has a lower priority, and that even when a healthy choice may have been made it is more difficult to sustain. Access to health services may be defined in terms of ability to navigate the conditions required to obtain health insurance payments and to afford out-of-pocket payments (5). Unmet need for medical examinations is particularly strongly related to income in Belgium compared with most other counties in the EU [Fig. 20], and rating the quality of health services as low has increased particularly among those with low levels of level of education (13,62).

Fig. 20. Percentage of [a] men and [b] women aged 16 years or older with self-reported unmet need for medical examination due to expense, being too far to travel or long waiting lists, by sex and income quintile in Belgium and similar countries, 2019

Source: WHO Regional Office for Europe (12).
3.3.5 Inequities in housing conditions

There is a high level of housing disparity in Belgium. The poorest are more likely to spend at least 40% of their disposable income on housing costs, leaving less to spend on fuel, healthy diets and recreational activities such as exercise (13,63). As seen in Fig. 21, in each year between 2010 and 2017, there was an income gradient in the proportion of income spent on housing that remained largely unchanged. In most years, the proportion spent by each quintile was three times greater than in the next richest quintile (64).

Fig. 21. Percentage of people living in a household where housing costs are > 40% of disposable income (net of housing allowances) by income quintile, Belgium 2010–2017

Inadequate housing conditions affect disadvantaged households most often. Overcrowding, which is an average of 5.7% in Belgium, is at 16% for households living in relative poverty and 14% for single-parent household with children (15). Energy poverty, where households cannot keep their home adequately warm, can create health risks through low indoor temperatures. It is estimated that 14% of Belgian households face challenges in affording energy (31). Fig. 22 shows that this socioenvironmental problem is very unequally distributed across Belgian provinces (66).
3.4 Implications of NCD risk factors and public goods for health

The analysis of NCD risk factors and their distribution indicates that there are significant inequalities due to income, gender and the region of residence, which have led to widening of the gap in health inequities. Increasing trends in the uptake of risk factors such as alcohol and e-cigarettes by the younger generation is of concern. Dietary habits are showing an improvement in the younger generation. Environmental risks are more concentrated in the urban and less-affluent areas, worsening the already poor conditions in socioeconomically deprived households. The analysis of public goods for health revealed strong regional and subregional dimensions. Geographical inequalities are experienced through reduced access to quality services and secure employment opportunities and income. Being in temporary work has increased in Belgium, creating a greater risk to closing the gaps in inequities.
Current status of policies and future policy options
Based on the conditions and effects outlined in section 3, this section analyses the current status of policy implementation in Belgium and proposes policy options to improve health and well-being while narrowing the gap in inequities.

Understanding the public health policies in place and their level of implementation helps to determine what changes should be made to improve the health and well-being of the population. This section discusses the current policy status and proposes future policy options for consideration under four overarching strategic areas:

• strategic leadership and political commitment
• provision of supportive environments to make healthy choices
• promotion of an economy of well-being that builds trust
• monitor and evaluate progress.

4.1 Strategic leadership and political commitment

The 2020 Federal Coalition Agreement, which lays out the high-level vision and priorities of the Belgian Federal Government has set two goals to be reached by 2030 [67]. The first is to diminish the gap between those with the highest and lowest number of healthy life-years by at least 25% while the second is to reduce the number of preventable deaths by 15%. To achieve these goals, intersectoral action is necessary at both national and regional levels and a review is needed into the existing mechanisms and their efficiency in setting targets and implementing policies that promote health and health equity across non-health sectors. This review evaluates existing bodies of coordination as well as the capacity of the health sector in understanding and communicating on prioritizing health and well-being to other sectors, such as social, employment and environmental sectors.

Belgium has a complex governance mechanism. Responsibilities are divided between the federal and federated entities but are not coordinated efficiently between these authorities. While health promotion, disease prevention, including vaccinations, and early detection are competencies of the federated authorities, population-level policies such as taxation and sales restrictions are federal competencies. All federated regions have developed their own health plans for health promotion, which vary across regions. Environmental and housing policies are largely driven by the regions, which has led to different performance levels as well as differences in management and implementation. Flanders has a very strong focus on identification and remediation of contaminated sites while this is not addressed similarly in the other regions. Similarly, policies on access to social housing, which is very low in Belgium in general (5.4%, which does not include housing offered by social rental agencies), are managed very differently across the regions [68]. Although an attempt had been made to tackle these inconsistencies by establishing institutionalized bodies to help to coordinate and exchange information, in practice political priorities and management still differ between regions. In addition, the regional plans seem not to have clearly defined easily measurable targets to monitor their success, particularly for NCD prevention strategies. The perception of the stakeholders for this review was that the fruits of this public health work by the regions were harvested by the federal level in reductions of costs needed for the curative care sector, which is borne by the Federal Government, and the rightful financial benefits were not received by the regions.

Policies supporting intersectoral collaboration. Several coordination mechanisms exist between the federal and federated regions and across different stakeholders. The Public Health Interministerial Conference
is the coordinating body at the highest level and occurs approximately biannually with the participation of ministers of regions and federal level. The intercabinet groups, with the participation of advisors to the ministers, prepare issues for political discussions and provide a platform for budgetary discussions. However, these mechanisms appear to be functioning more as a platform to provide solutions for so-called business as usual matters, where documents are approved and budgets allocated. According to the public health stakeholders, discussions for strategic and forward-looking planning are limited at these forums and there is no systematic mechanism for participatory involvement of all relevant stakeholders, including citizens, marginalized communities, non-profit-making organizations or trade unions.

Conflicts of interest on public health policies. Country experts emphasized that industry has considerable influence on public health polices, especially the alcohol and food industries. Although there are no systematic or specific policies to prevent undue influence or conflict of interest between tobacco companies and public health policies, high-level political leadership still seems to be guided by, and abides by, the regulations set out in the WHO Framework Convention on Tobacco Control (FCTC) (69) and the EU tobacco directives (70); consequently it avoids interactions with the tobacco industry. However, the alcohol industry is said to have influenced public health policies, preventing endorsement of policies such as increasing minimum age for alcohol use and taxation, as explained by an expert.

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4.1.1 Recommended policy options to promote strategic leadership and political commitment

Three recommended policy options are proposed to promote strategic leadership which aligns all entities with a common goal; to establish mechanisms to improve coordination with all relevant sectors; and to limit unsuitable influence on public health policies.

Recommended policy option 1. Promote strategic leadership to align all entities with a common goal to reduce preventable diseases and premature deaths by the prevention of NCDs and to reduce the gap in inequities and adopt a Health in all Policies approach

Those with the poorest health in Belgium and who are being left behind are most often likely to be experiencing multiple forms of health, social and economic vulnerabilities through income, housing, health-care and employment insecurities. Urban and rural development policies and economic shifts have created pockets of concentrated inequities in health and public goods for health within regions. The current approaches of community wealth building have not worked, as shown by the persistent and growing inequalities that strain the resilience of existing social and health systems. Investments into public goods for health equity at sufficient scale and intensity to address the needs of those left behind generates wider benefits for societies, with higher trust, economic cohesion, labour market productivity, social mobility and more resilient health and welfare systems.
The Health Equity Status Report, which examined the impact of investments in eight macroeconomic policies over a period of 10–15 years, found that six were significant in reducing inequities in health and health determinants [Fig. 23] (12).

**Fig. 23.** The impact of macroeconomic policies on reducing inequities in health and health determinants within two to four years of policy introduction

Measurable results can be seen within two to four years of policy investments being introduced for reducing unemployment and out-of-pocket payments for health care by 0.1%, reducing income inequality by 1 Gini point \(^1\) together with an increase in social protection of 0.1% of GDP, and instituting active labour market programmes and housing and community amenities.

Consequently, a complimentary mix of policies would have a major impact on those most experiencing inequities in NCDs and related determinants. These include:

- implementing population-level public health policies that have a stronger impact on reducing inequalities;
- ensuring the implementation of environmental standards across the whole country and reducing environmental hotspots, especially in deprived areas;
- enabling urban settings that promote healthy lifestyles through access to healthy food, active mobility and outdoor recreation and restoration;
- providing education, lifelong learning and life skills/literacy;
- providing health interventions to reduce out-of-pocket payments and improve access to appropriate services by disadvantaged communities;

\(^1\) The Gini index ranges from 0% to 100%, with 0 representing perfect equality and 100 representing perfect inequality.
increasing access to adequate social housing and reducing housing costs that overburden those on low incomes;

• creating social protection policies that guarantee food and fuel security for low-income families, in particular single parents and young people from age 18 years; and

• provide decent work through active labour market policies, which include occupational health, counselling, peer support and mentoring in the workplace and in the community.

No sector can lead this transformation alone, and governments have a key role to play as stewards of social and natural assets in ways that build trust and social cohesion.

The health sector can serve as a co-leader, ally and collaborative partner in efforts to shift towards well-being economies that produce health and well-being for all people and the planet. This will build on Health in All Policies approaches and commitments by engaging government, business and third sector partners, as well as younger people and intergenerational alliances, towards acting together to achieve these shared goals.

A Health in All Policies approach and commitments can be agreed at both national and regional levels, identifying health, environment and equity criteria to be embedded in sectoral policies and regulations (such as housing, energy, transport, urban planning, energy, production and industry). Collaboration, data exchange and monitoring could be part of such initiatives to provide a common understanding of the priorities for action and sector-specific health impacts. Case study 1 illustrates the use of a Health in All Policies approach in Austria and Finland.

Case study 1. Challenges and achievements in Health in All Policies

Political engagement and intersectoral action in Austria

To set national health targets, the Government of Austria set up a participatory Health in All Policies approach involving 40 stakeholders and the public, with everyone participating through an online platform (71). Following this, 10 national targets were approved by the Council of Ministers and the Federal Health Commission. A working group was set up for each target while holding policy dialogues based on fact sheets highlighting the win–win outcomes. The process was led by the Ministry of Health, which set up the implementation measures needed to achieve the targets while monitoring what was to be carried out by the Austrian Public Health Institute. Crucial steps to support the intersectoral approach were to empower relevant stakeholders and create ownership of the process.

Health in All Policies and ongoing challenges in Finland

Finland has nearly 40 years of experience in advocating and implementing a Health in All Policies approach (71). Nevertheless, several challenges have been identified in relation to creating the necessary mechanisms, resources and capacity for stronger implementation. For example, within the health sector it has become necessary to broaden the domain of vision beyond only health care as this prevented consideration of the well-being component. To address this, a long-term vision and areas of opportunity were identified through entry points for collaboration with network such as Healthy Cities, development of hard tools such as legislation and soft tools such as providing...
online models for reporting on well-being for municipalities. Finland’s experience provides useful insight as an experienced problem-solver in its long-term experience in implementing a Health in All Policies approach.

**Recommended policy option 2.** Strengthen coherent budgeting and accounting practices through a whole-of-government approach based on clearly defined goals, objectives and targets for health

Policy option 2 involves fostering a political environment that supports changes to address health equity and strengthen planning and decision-making systems of federal and regional governments to deliver joined interfederal policies and services.

- Establish an interministerial task force and a cross-party committee on healthy and prosperous lives for all with clear deliverables to improve intersectoral coordination and accountability.
- Supplement this with a small and dedicated resource unit to keep the issues “live” across communities and sectors and to promote regular dialogue and platforms for debate. Ongoing dialogues and reflection would lead to opportunities to redefine problems and goals and identify new solutions and opportunities. This unit can also act as part of an anticipatory governance system.
- Use strategic-level social value accountability methods, including health equity impact assessment and evaluations, in the criteria for awarding tenders and for economic and social regenerations in regions and departments that are lagging behind.

**Recommended policy option 3.** Adopt governmental rules and regulations to limit unsuitable influence on public health policies

To limit unsuitable influences on public health, the following measures could be considered.

- Adopt a national strategy explicitly including a code of conduct or procedural guidelines for committees or advisory groups related to public health to prevent unsuitable interactions with the industry.
- Maintain transparency of the policy process through creating a legislative footprint (with documentation of time, person and subject when someone contacts a policy-maker) and record every step taken during a policy process.
- Ensure disclosure to the public of the list and content of submissions from public consultations and dedicating a specific person[s] to review the evidence in these submissions.
- Conduct awareness-raising activities to inform and educate all branches of government on conflict-of-interest activities in public health policy and the need to protect such policies from undue interference.
- Conduct awareness-raising activities to inform and educate government officials and the public about the harm caused by the NCD risk factors, the conflict of interest that can arise with industry and the importance of protecting policies from undue influence.

Case study 2 describes measures in Scotland (United Kingdom) to overcome undue alcohol industry influence.
Case study 2. Implementing a minimum unit pricing policy in Scotland (United Kingdom) in the face of powerful industry opposition

The policy of minimum unit pricing was included in the Scottish Government’s alcohol policy framework in 2009 (72) as an evidence-informed measure to reduce alcohol consumption and related harms. At the time, as well as health costs, the economic costs of harms due to alcohol consumption were estimated in the region of £2.25 billion per year in Scotland.

The legislation to implement a minimum unit pricing policy was passed without any parliamentary opposition in Scotland in 2012. Legal challenges then ensued, backed by a conglomerate of global alcohol producers and led by the Scotch Whisky Association. It was argued that the legislation breached EU trade regulations. The issue was contested over several years in the Scottish courts and in the European Court of Justice before ultimately being settled in the United Kingdom Supreme Court in 2017. The policy was implemented in 2018 (72,73), with a “sunset clause” attached, so that continuation of the policy beyond 2023 would be contingent on the analysis of outcomes from a series of evaluation studies. Throughout the battle to implement minimum unit pricing in Scotland, advocacy groups in Scotland and the EU, notably the Scottish Health Action on Alcohol Problems, Alcohol Focus Scotland, British Medical Association in Scotland and Europe, Eurocare, European Public Health Alliance and the Standing Committee of European Doctors, worked in partnership to support the Scottish Government’s case, to build and maintain public support and to educate other EU Member States about the importance of the policy for Scotland. The evidence base for the policy was supported by substantial modelling studies conducted by the University of Sheffield, as well as drawing on examples where different models of minimum unit pricing had been adopted in other geographical contexts. This case study demonstrates that, with political commitment, partnerships with civil society and evidence, governments can overcome opposition by powerful economic operators to the implementation of evidence-based policies to reduce harmful activities such as alcohol consumption.

4.2 Provision of supportive environments to make healthy choices

Population-level public health policies make it easier for people to make healthy choices that will help to prevent and control NCD risk factors, by restricting availability, promotion and affordability of unhealthy products and by promoting and making healthy products more easily accessible and affordable. These public health policies form part of WHO’s recommended best buys policies, which indicate the most cost-effective and feasible solutions to reduce the burden of NCDs.

4.2.1 Tobacco control policies

Protect people from tobacco smoke. Belgium has banned smoking in all public transport, in motor vehicles when a child (younger than 18 years) is present and in all closed public places. However, legislation also allows the creation of designated smoking rooms in public places. A 2018 health information system assessment revealed that one in 10 of those aged 15–24 years had been exposed to passive smoking...
indoors for at least one hour or more every day [74]. Of these nearly half had also been exposed to tobacco smoke in public places.

**Help to quit tobacco.** A toll-free quit line called Tabacstop is available with an in-person link to someone speaking the three languages of Belgium. Cessation programmes that specifically targeted pregnant women are available.

**Package warnings about the dangers of tobacco.** Plain packaging was implemented in January 2020 in Belgium, as the fifth country in Europe to adopt this measure. However, anti-tobacco mass media campaigns as recommended by the WHO MPOWER policy interventions have not been given a priority.

**Marketing/promotional restrictions.** Belgium has implemented a nearly complete ban on tobacco advertising and promotion, fulfilling most of the recommendations given in the FCTC. However, display of tobacco products at the point of sale is still allowed by legislation. Although tobacco product placement on television is banned, television shows or movies can show tobacco smoking.

**Tobacco taxes.** Belgium is among the countries with the highest tobacco tax applied to cigarettes in the WHO European Region. A pack of cigarettes was less affordable in 2020 than it was in 2010 [27]. In 2020, 77% of the retail price of the most consumed pack of cigarettes was taxation, of which ad valorem tax made up 40% of the total tax levy, with specific tax being only 20%. In 2017 the Belgium Government received €2.5 billion in revenue from cigarette sale tax receipts [75]. This was a 36% increase in revenue compared with 2002, despite a relative reduction in consumption by 33%. The increasing revenue was partly due to the simultaneous increases in price of a cigarette pack in France and the Netherlands, which probably reduced cross-border shopping by Belgians. In 2017 the retail price of a premium cigarette pack was €10 in France, €8 in the Netherlands, €6.8 in Belgium and €5.4 in Luxembourg [76]. The reductions in cross-border shopping and increases in revenue appear to have increased political backing for continued rises in taxation for tobacco.

**Policies to control for electronic nicotine delivery systems.** These systems, also known as e-cigarettes, have gained popularity especially among younger men and older women. Currently they are partially regulated in Belgium. There are plans to extend the current regulation applied to electronic nicotine delivery systems to electronic non-nicotine delivery systems and to introduce tools allowing for more strict regulation of additives. The proposed amendments will include bans on displaying flavours in the labels, regulations on permitted and prohibited additives and a ban on disposable e-cigarettes. Taxation of electronic nicotine delivery systems is currently not covered by this proposal.

**4.2.2 Recommended policy options for reducing the burden and inequities with tobacco consumption**

No single policy is effective on its own in reducing the tobacco burden and inequities, but a full implementation of the WHO FCTC provisions can yield the highest impact; this includes monitoring of tobacco use; banning smoking in public places, workplaces and on transport; banning all forms of tobacco advertising, promotion and sponsorship; and raising taxes. All these measures should be applied to novel and emerging nicotine and tobacco products as well.

Tobacco tax and price increases have been shown to be the most impactful tobacco control policy [77]. Data from Australia, where tobacco prices are the highest globally, show that each time taxes were increased
there was a significant immediate fall in smoking prevalence; this was particularly evident in those with the lowest SES relative to those with the highest, which would narrow the gap in inequity (78). However, in the intervening periods where tax increases were not occurring regularly, the relative reduction in smoking prevalence became similar in both groups (Fig. 24). The data also imply that the people of lower SES may be more likely to have a higher dependency on nicotine and be more vulnerable to relapse than those of higher SES.

**Fig. 24.** Prevalence of smoking among people of high and low SES in Australia, 2001–2017

Consequently, to maintain the high reductions in smoking prevalence in people in the low socioeconomic groups, regular and high tax increases and accessible support for quitting to help to avoid relapse are highly effective policies.

An analysis from Kyrgyzstan shows the impact of price increases on those who sustainably reduce or stop smoking due to these increases (79). People in the two lower income quintiles benefited the most from price increases by saving the most in out-of-pocket expenditure spent on tobacco and in cost savings from reducing the disease burden (Fig. 25).
Fig. 25. The effect of tobacco price increases of 40% and 60% on (a) premature deaths averted and (b) out-of-pocket expenditure due to tobacco-related diseases, Kyrgyzstan, 2017

<table>
<thead>
<tr>
<th>Income quintile</th>
<th>40% price increase</th>
<th>60% price increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 (lowest)</td>
<td>15,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Q2</td>
<td>10,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Q3</td>
<td>5,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Q4</td>
<td>0</td>
<td>5,000</td>
</tr>
<tr>
<td>Q5 (highest)</td>
<td>20,000</td>
<td>40,000</td>
</tr>
</tbody>
</table>

Data from Belgium also show that people in the lowest income group disproportionately face a higher burden from tobacco-related diseases; therefore, any reduction in smoking prevalence would have higher benefits to this group.

Finally, considering the findings from Belgium, it is important to have a combination of policies to support the lower income groups and women and to prevent uptake of smoking by the younger generations.

**Recommended policy option 4.** Improve the design of tobacco taxes

Two specific options are suggested.

- Increase specific excise tax rates that lead to higher prices and smaller price differences across brands; both result in reduced tobacco use. A high proportion of ad valorem taxes sustains lower prices for cheaper brands of cigarettes, thus potentially increasing inequalities (80).
- Tax novel and emerging nicotine and tobacco products in line with national standards to effective in reducing affordability of these products, especially among youth (81).

**Recommended policy option 5.** Implement a full package of cessation programmes at best practice levels, with special consideration to support women and those of low SES.
Targeting of programmes would increase effectiveness.

- Direct initial efforts towards promotion of population-level cessation interventions such as brief advice from health professionals. If resources and capacities allow, additional investment in pharmacological and behavioural interventions should be made.
- Provide free access to treatment options to those with low SES and for pregnant women, which would help to address inequalities caused by tobacco smoking.

Case study 3 illustrates an approach that addresses socioeconomic factors through awareness-raising campaigns (82).

**Case study 3. Tobacco Free Ireland Programme**

Ireland is one of the comparison countries that has been able to halt the rise of lung cancer in women. The Tobacco Free Ireland Programme was initiated in 2013 with the target of making Ireland tobacco free by 2025 (82). The programme has a specific arm on addressing socioeconomically deprived communities.

"Not Around Us" is a WHO award-winning initiative launched in 2019 in Ireland to denormalize smoking for the next generation by putting signage such as "Young Lungs at Play" or "Tobacco Free" in playgrounds, gardens and parks. This aims to raise awareness of effects of passive smoking and also makes support available for quitting. It is a multistakeholder partnership with community development committees, the Children and Young People’s Services Committee, the Irish Heart Foundation and other relevant stakeholders. The initiative has gained political backing and more regions were preparing to launch the initiative in 2020.

Another initiative, the QUIT campaign, has a strong component to raise awareness among the target population (men aged 24–44 years) using television advertisement campaigns. Data indicate that one in three of those who had seen the advertisement had interacted with the QUIT campaign. In 2018 a pilot programme for smoking cessation, "We Can Quit2", was implemented in Dublin. It was a community-based programme targeted at women in deprived areas; it was conducted by the local stop smoking advisors, who offered free cessation treatment using funding from the Irish Cancer Society. The programme has had good acceptability among women in deprived communities.

**Recommended policy option 6.** Enforce a complete ban on smoking in all indoor public places, workplaces, public transport and discourage the use of designated smoking rooms

All tobacco and related products, including electronic nicotine delivery systems, should be covered by the indoor smoke-free bans. Ensuring enforcement in all workplaces and communities can have additional benefits in reducing inequities from tobacco smoking (83). The policy can be expanded to include outdoor areas such as parks, recreational facilities and/or beaches (84).
4.2.3 Alcohol control policies

Policies on alcohol availability. The minimum age for purchasing fermented alcoholic drinks in Belgium is 16 years and for distilled drinks is 18 years. In 20 EU countries the minimum age to purchase alcohol has been set as 18 years, while in four other countries (Denmark, Germany, Luxemburg and parts of Austria) the age is 16 years for certain types of alcoholic beverage. Although several attempts were made in 2013 and 2016 to increase the minimum age of purchasing to 18 years for all alcoholic beverages in Belgium, this did not achieve ministerial consensus. This challenge is explained further by an expert.

It is difficult to understand why there are two age groups, and it is difficult to implement this. Even some shop owners cannot clearly differentiate what drinks qualify for what age.

Belgium does not have restrictions on the place or time of sales other than the usual shop closing times. Alcohol is allowed to be sold at any time including along the motorway service stations. [Expert, country mission]

Promotion of alcohol. A self-regulatory code between the alcohol industry, consumer organizations and the Government governs marketing and promotional activities for alcohol in Belgium. The code includes an agreement not to promote excessive use of alcohol; not to use high alcoholic content as an indication of quality, social or sexual success; and not to imply improvements to health, positive job prospects or athletic performance. The code includes protecting children under 12 years from marketing by restricting advertisements from being shown five minutes before or after television shows aimed at this age group or at cinemas where the majority of the audience is children below 12 years. This self-regulatory code has been adopted by regions with minor modifications.

Provision for complaining regarding failures to follow the code. Complaints lodged against the industry when the self-regulatory code is suspected to be broken are examined by a jury formed by the Council of Advertisements, consisting of people from the marketing industry, civil society and, recently, experts from the Federal Ministry of Health. However, even with the monitoring mechanism in place, the self-regulatory measures seem to have allowed for variable interpretation by the alcohol industry, as explained by this expert.

If there are players in the national football team printed in the beer cans, or the Olympic winner is running towards a whiskey bottle at the end of the race, they do not see it as a violation. It is difficult to get the majority agreement in the Jury. We are not pushing hard enough. [Expert, country mission]

Corporate social responsibility. The alcohol industry in Belgium is frequently involved in activities considered as corporate social responsibility. Some examples are the Smart Drinking programme targeting underage drinkers, and training on screening and brief interventions for medical professionals; this was launched in 2016 in partnership with Anheuser-Busch InBev and University Hospital in Leuven [85]. When the industry is involved in funding social marketing campaigns, evidence indicates that it is to positively influence consumers’ attitude towards the brand and to their overall marketing strategy [86].

Alcohol tax policies. Taxation of alcoholic beverages is the least implemented yet most impactful public health policy to reduce consumption of alcohol, including in Belgium [Table 3].
Table 3. Tax share for beverage types (off-premise) in 2020 compared with the tax share for tobacco in 2018

<table>
<thead>
<tr>
<th>Country</th>
<th>Tax share (% final retail price, off-premise), 2020</th>
<th>Tobacco tax share (% retail price of cigarettes), 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beer</td>
<td>Wine</td>
</tr>
<tr>
<td>Austria</td>
<td>7.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Belgium</td>
<td>7.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Denmark</td>
<td>7.8</td>
<td>7.7</td>
</tr>
<tr>
<td>France</td>
<td>11.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Germany</td>
<td>3.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Ireland</td>
<td>21.8</td>
<td>14.7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>7.6</td>
<td>6.8</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3.3</td>
<td>0.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>21.7</td>
<td>21.8</td>
</tr>
</tbody>
</table>

Source: Neufeld et al. (87). Reproduced under CC BY 4.0 (https://creativecommons.org/licenses/by/4.0/).

Beer is the most consumed alcohol in Belgium, contributing to 45% of alcohol consumption, followed by wine (38%) and spirits (14%). Other alcoholic types contribute to only 3%. The last tax amendment in 2015 saw an increase of excise taxes by 71% for spirits, 59% for wine and 17% for beer from the rates in 2011 (88). Small breweries are taxed at a relatively reduced rate. Following the tax amendment, the total revenue from excise taxes from alcohol had marginally increased from €318 million in 2015 to €323 million in 2016 (88). However, the APC (in those aged 15 years and older) decreased by 1 litre, from 12.1 litres in 2015 to 11.0 litres in 2016 (Fig. 26). Although the revenue collected had stayed relatively similar in that period (Fig. 27), the reduction in consumption should eventually lead to reductions in alcohol-attributable morbidity and mortality, saving costs to the health-care system.

Fig. 26. APC for different types of alcoholic beverages, 2010–2019

Source: WHO (39).
During the COVID-19 pandemic and the imposed travel restrictions, there was an expectation of increased revenue from alcohol taxation as a result of reduced cross-border shopping. However, tax revenues from alcoholic drinks (wine and beer) showed a steep decline in 2020 (Fig. 27). The increase in revenue from ethyl alcohol could presumably be from production of sanitizers during the COVID-19 pandemic. This is consistent with reductions in alcohol consumption seen across Europe during the pandemic (89) and indicates that Belgians may not have been shopping cross-border for alcohol during the pre-pandemic period as much as it was expected.

4.2.4 Recommended policy options for reducing the burden and inequities with alcohol consumption

Although overall APC in the Belgium population has reduced overall, hazardous drinking among young people is showing an increasing trend. Harm attributed to alcohol disproportionately affects young people and those socioeconomically deprived. Alcohol consumption not only harms the drinker but also others through increasing violence and road traffic accidents.

**Recommended policy option 7.** Reduce affordability of alcohol by increasing taxation and considering introduction of new pricing policies such as minimum unit pricing

Research studies show that taxation is the most impactful policy intervention to reduce alcohol-related inequalities and to protect young people. For taxation policies to be effective, they should apply across all alcoholic beverages to reduce consumers switching to cheaper beverages (90). Neufeld et al. in 2022 showed that adopting a strategy for alcohol taxation similar to that for tobacco with a minimum tax share of 15% applied to all alcoholic beverages and the price per unit of alcohol equalized across these beverages would avert approximately 1773 deaths attributed to alcohol per year in Belgium (29% of total deaths attributed to alcohol), including 289 lives saved from cancer, 606 from cardiovascular diseases, 270 from injuries and 207 from digestive tract diseases (87).

A modelling study, based on data from the 2012 Health Survey England, examined the effect of different pricing policies alcohol consumption in moderate and heavy drinkers in three socioeconomic groups (Case study 4) (91).
Case study 4. Use of modelling to support assessment of taxation measures on alcohol consumption in England (United Kingdom)

This modelling study used data from the Health Survey England 2012 to assess whether common alcohol taxation and pricing strategies differed in their impact on health inequalities [91]. The study examined the effect of different pricing policies on moderate and heavy drinkers in three socioeconomic groups: routine/manual labour group (low SES), an intermediate group and a professional/managerial group (high SES). The pricing strategies were equalized to give the same 4.3% population-wide reduction in total alcohol-related mortality. The data showed that volumetric tax (excise duty applied per unit of all beverages), and minimum unit pricing (a floor price per alcohol unit) would have the highest effects in reducing alcohol consumption and alcohol-attributable mortality among the heavy drinkers and especially among the heavy drinkers in the low SES group. Volumetric tax was estimated to reduce consumption by 2.8% (approximately 112 units of alcohol per year by an average heavy drinker) and minimum unit pricing by 3.3% among heavy drinkers, while among moderate drinkers the reductions were expected to be 1.4% (approximately 4 units of alcohol per year in an average moderate drinker) and 0.9%, respectively. Among the heavy drinkers in the low SES group, the consumption reduction was estimated to be 7.6%, while consumption in the highest SES group could increase by 0.4% [Fig. 28]. This consumption reduction is suggested to reduce alcohol-attributed mortality at a greater level in the low SES group, thus narrowing the equity gap between the low and high SES groups.

Fig. 28. Equity gap in alcohol-related mortality rates between routine/manual (low SES) group and professional/managerial (high SES) group for (a) heavy drinkers and (b) moderate drinkers, with varying tax methods in the United Kingdom

Notes: Current tax in the United Kingdom is by volume of alcohol for beer and wines, unit of alcohol for spirits; sales tax is an ad valorem tax determined by the assessed value of an item (e.g. value added tax). Source: Meier et al. [91]. Reproduced under CC BY 4.0 (https://creativecommons.org/licenses/by/4.0/).
The results of the modelling study described in Case study 4 can be applied to the Belgium context and imply that tax increases that affect affordability will reduce overall disease burden with greater effects in reducing the gap in health inequities attributed to alcohol.

**Recommended policy option 8. Ban late night off premise alcohol sales**

Late night off-premises alcohol sales have been linked to binge drinking at night, particularly among young people, and to alcohol-related hospitalizations. The basis for proposing a policy banning such sales is that young people tend to drink most towards the evening and night; may prefer to buy their alcohol off-premises as it is cheaper than on-premises drinks; are likely to binge drink outside of their homes with less adult supervision; and are less likely to buy and store alcohol ahead of time. A late-night ban reduces access to alcohol when consumption has already begun, thus preventing spontaneous excessive drinking.

**Recommended policy option 9. Increase the minimum age to 18 years for drinking and purchasing all alcoholic beverages**

Increasing the minimum age to 18 years for drinking all alcoholic beverages would reduce the likelihood of heavy alcohol consumption and engaging in risky behaviours at younger ages. Evidence from Austria suggests that adolescents’ perception of binge drinking changes when they reach the legal minimum age for consumption, with it being considered less harmful and the frequency of binge drinking and hospitalizations due to alcohol intoxication increasing (92). This is also more common in those of the socioeconomically deprived group (by 40%) relative to the high-income group (92). Multiple studies have shown significant increases in road injuries and hospital admissions at the time adolescents reach the minimum age for drinking (93–95). There is also a strong link with drug dependence (94) and socially risky behaviour, which can lead to sexually transmitted infections (Case study 5) (96). Case study 5 from the Netherlands further highlights the effectiveness of increasing the minimum legal drinking age to 18 years.

**Case study 5. The effect of increasing the minimum legal drinking age from 16 to 18 years in the Netherlands**

In 2014 the Netherlands increased the minimum age to buy and possess alcohol in public places from 16 to 18 years (96). To support effective implementation, a public awareness campaign called NIX18 was launched simultaneously. The secondary outcome was reduction in risky behaviours among adolescents. Data from 2010 to 2016 showed that risky behaviours did decrease following the increase in the minimum age, as indicated by a significant reduction in chlamydial infections (a sexually transmitted disease) in those aged 16–17 years while an increase was seen in those aged 18–19 years (the control group).
4.2.5 Nutrition policies

**Policies promoting product reformulations.** Belgium has several ongoing programmes to promote product reformulation (the process of altering a food or beverage product’s recipe or composition to improve the product’s health profile); some have shown success, and some have further room for improvement.

**Front-of-pack food labelling.** Belgium adopted voluntary implementation of the front of pack Nutri-Score system in 2019 (97). The Nutri-Score system calculates a single score based on the amount of nutrients that should be limited (energy, saturated fat, total sugar, sodium) and the amount of nutrients that should be encouraged (fibre, proteins, fruit, vegetables, pulses, olive oils) for every 100 g or 100 ml of food or beverage. After one year of implementation, major retailers in Belgium had taken up the labelling system to cover about 10% of the total food supply; however, 90% of these labelled products were from two major retailers (97). Under pressure from the retailers, the five biggest brands have now committed to displaying Nutri-score labelling.

**Targets to reduce salt and energy intake.** Data from 2014 indicate that salt intake was nearly twice as high as that recommended by WHO (< 5 g salt per day) (21). Regulations for the salt content in bread (2% salt content), and butter and trans-fat (maximum of 2 g trans-fat in 100 g fat) are applicable in Belgium, but there are no enforced restrictions on energy content. Policy-makers expressed difficulties in implementing national-level restrictions without EU regulations when Belgium does not have a considerable market share in the EU, as explained further by this expert.

> Now we are working with the food industry to reduce energy levels. We have a maximum salt level for butter. But some of neighbouring countries do not. It is quite difficult to be doing this in a free market. This is not something we want to push for by ourselves. We are not the biggest players. It’s not politically feasible. We are under pressure by the industry. We strongly believe that these things should come at EU level. [Expert, country mission]

**The Stop Salt Convention.** This was initiated in 2009 and had been successful in reducing the population salt consumption by 10% by 2012 (98). Although this Convention was officially ended, authorities in Belgium informed that the initiative’s implementation were still ongoing.

**Tax on sugar-sweetened beverages.** Belgium is one of the 10 countries in the EU with a sugar-sweetened beverage tax. A €7/hl tax is applicable to non-alcoholic beverages. The tax was mainly promoted as a strategy to address the budget deficit. A tax revenue of €175 million was generated in 2018 (data from the country mission). One of the expectations when taxing sugar-sweetened beverages is that it will promote product reformulations to reduce the amount of tax applied. However, when the tax share is minimal there is insufficient incentive for manufacturers to reformulate and, as yet, there is no evidence of product reformulations following the sugar-sweetened beverage tax in Belgium. The tax in Belgium increased the price per can of sugary drinks only minimally (0.1 cent per 330 ml can, 0.3 cents per 1 litre bottle); consequently, policy experts believe that the affordability of sugary beverages did not change.

> The amount is ridiculously low, it cannot have an impact on consumer behaviour. The Federal government’s intention was to generate revenue and not to place it as a health tax. [Expert, country mission]

**Food-based dietary guidelines.** All regions have developed food-based dietary guidelines and have made these publicly available and accessible through the Internet. NUBEL is a non-profit-making organization
endorsed by the FPS Health that provides information on nutrient profiles of many products in the market in an interactive web-based platform. It allows people to make informed decisions based on the quality and quantity of the food consumed. In the school setting, there are comprehensive food-procurement guidelines on healthy school meals and healthy snacks, plus recommendations on types of drink on offer at schools; for example, soft drinks such as cola are not offered in primary schools. These restrictions are voluntary.

**Policies to prevent marketing to children under 12 years of age.** The Belgium Pledge, launched in 2012, is a self-regulatory initiative with the food industry (food companies, restaurants and caterers) to prevent marketing in television, radio, printed and digital media of unhealthy food and beverages to children under 12 years of age. Each region has an appointed jury to monitor the adherence to the self-regulatory code. A review in 2020 by the Flemish Region revealed that compliance of the food industry with the regulations was satisfactory, with 98% of television advertisements and 100% of websites conforming (99).

**Policies to promote breastfeeding.** WHO recommends that babies be breastfed within 1 hour of birth, to protect newborns from infection, facilitate bonding between the mother and the baby and to promote exclusive breastfeeding. WHO recommends that babies are exclusively breastfed for the first 6 months of life, followed by appropriate complementary feeding up to 2 years and beyond. The international code of marketing breastmilk substitute, which bans marketing of breastmilk substitutes for children up to 12 months of age, aims to promote breastfeeding while preventing undue influence from the industry promoting breastmilk substitutes. Belgium has adopted the breastfeeding code. However, some of the provisions in Belgium do not meet the recommendations from the United Nations Children’s Fund and WHO. The Baby Friendly Hospital Initiative calls upon hospitals to implement 10 strategies to initiate and support breastfeeding, conduct staff training, allocate sufficient resources and monitor the implementation of the policy actions. There are 30 Baby Friendly maternity hospitals in Belgium. Evidence from Belgium shows that babies born in these hospitals showed a significantly higher rate of exclusive breastfeeding at discharge from the hospital (100).

**Prohibition of promotion linked with health-care provision.** Prohibition of promotion at health-care facilities or engagement of industry representatives with health-care workers is not implemented in Belgium. The level of monitoring of adherence to the code is assessed as being poor (21).

### 4.2.6 Recommended policy options for reducing the burden and inequities with poor dietary habits

Belgium is one of the Member States of the WHO European Region that has shown good practices and policies in promoting healthy nutritional habits. While the equity gap in obesity seems to have narrowed over the years according to self-reported data, rates of overweight, obesity and salt intake continue to remain high overall, indicating the need for stronger policy impact evaluations and policy realignment.

**Recommended policy option 10.** Comprehensively adopt the breastfeeding code and ensure breastfeeding support especially for mothers of low SES

Pregnancy presents a window of opportunity to act on reducing health inequalities as women seek more frequent access to health care. Breastfeeding protects against obesity, prevents diarrhoea and respiratory
infections in the infant, improves their IQ and reduces risk of chronic disease in later years. For the mother, breastfeeding reduces the risk of breast cancer and obesity [101].

- Promote early initiation and support to continue breastfeeding, especially in the low SES groups, as this can give a head start in life and narrow the gap in health inequalities for the child’s lifetime. Ensuring skilled support for breastfeeding by health staff.
- Enable breastfeeding at the workplace and public places, especially in low SES communities. Provision of social benefits for food purchases during breastfeeding and paid maternity leave for a minimum of 20 weeks should be core requirements, especially to ensure breastfeeding continuation by mothers in low SES groups.
- Adopt a comprehensive breastfeeding code that includes prohibition of promotion or contact by manufacturers of breastmilk substitutes with mothers or health-care workers, including legal measures in place for non-compliance.

**Recommended policy option 11. Introduce requirement for maximum salt levels in commonly consumed high salt foods**

It is proposed that levels for salt should be required to not exceed a set maximal figure in all frequently consumed products that add salt to the diet (such as cheese, bread or processed meat); this is already applied for butter. The maximum limit of salt for different food categories, as recommended by wide expert consultation, is provided by WHO [102]. The maximal level should be applicable for both food products manufactured in the country and those imported. This also highlights the need for regional targets on salt levels as regulations in Belgium alone will not be effective when the markets in the neighbouring countries are larger and without restrictions.

**Recommended policy option 12. Formally adopt mandatory front-of-pack labelling in all food products**

Food labels can help consumers to make better choices, and the evidence shows that front-of-pack labels to identify foods high in added sugars, salt, saturated fat and calories have led to improved nutritional quality. Mandatory policy should be accompanied by public-awareness campaigns to stimulate consumer demand. Regular monitoring and evaluation should be carried out to assess implementation and impact, and these results communicated to the public [103].

**4.2.7 Policies to promote physical activity**

HEPA is promoted by different ministries in different regions in Belgium. Sports ministries in all regions seem to be leading in promoting HEPA. However, coordination mechanisms between health, education and legal entities appear to be informal. At the federal level, the FPS Health has not been cited as a supportive entity promoting HEPA. It seems that coordination between federal level stakeholders and regional authorities, and also across different stakeholders, such as sports sector, legal entities, city planning or education sector, is informal and irregular.
**Intersectoral partnerships.** The education sector is involved in Move Along, a strategy promoting a movement-rich culture in schools, urban planning to design cities to support physical activity and active commuting to work, and workplaces that support sporting events. Physical Activity on Referral is a project funded by the Flemish Ministry of Health that can refer inactive/sedentary people to a physical activity coach at primary care settings to support them in developing a personal plan to increase physical activity levels. To provide a safe environment to actively commute to school, streets near schools are not accessible to motorized vehicles at the start and end of school hours.

**Mass media campaigns.** Supported by popular sports figures and inspirational stories, mass media campaigns through television, radio and social media are conducted to raise awareness. An annual physical activity awareness-raising campaign, 10 000 Steps, is a community-based approach.

**Strategies for prevention of falls in elderly.** Some initiatives include guidelines and training for prevention of falls in nursing homes, community health walks to promote physical activity in elderly people and an educational tool for strength-training exercises for elderly people.

### 4.2.8 Recommended policy options for reducing the burden and inequities with physical inactivity

Belgium is one of the Member States of the WHO European Region that has adopted best practices aiming to improve physical activity (104), but these policies could have a wider reach to all citizens living in all three regions.

**Recommended policy option 13. Strengthen intersectoral coordination to promote HEPA**

Having formal coordination mechanisms to engage all relevant stakeholders within regions is essential for concerted action, to avoid duplication and manage resources effectively. An established national intersectoral coordination mechanism involving ministries of sports, health, urban planning, environment and other relevant sectors will strengthen lobbying for HEPA and knowledge sharing.

**Recommended policy option 14. Ensure physical activity policies also target those who might be left out or vulnerable**

Certain sectors of the community, such as very elderly people (> 85 years), refugees, migrants, unemployed people or people in detention or prisons, can be left out of measures to support healthy lifestyles, including HEPA. Apart from one region that shows best practices, policies for HEPA are not widely implemented or provide coverage for all deprived communities (105). It is important to ensure that physical activity programmes encompass all ages, gender and other deprived communities. All regions should be encouraged to share their best practices and provide support and necessary technical assistance when needed.
4.2.9 Environmental policies

EU environmental guidelines and commitments. At the Helsinki Conference in 1994, all Member States of the WHO European Region agreed to elaborate national environmental health action plans to reflect country-specific environmental questions/problems and needs. Since the early 2000s, the Belgian Ministers in charge of the Environment and Health have created joint structures to tackle these challenges. In 2003 the Ministers established an environment and health cooperation agreement in Belgian law, which provided a legal and an operational framework for cooperation in the areas of environment and health. It also formed the basis for the first Belgian National Environmental Health Action Plan in 2004 and a governance structure. Following the Ostrava Declaration at the Sixth Ministerial Conference on Environment and Health in 2017, Belgium, in 2019, submitted its report on a national portfolio of actions on environment and health, including a national environmental health action plan.

Intersectoral coordination for One Health. The FPS Health is in charge of the four pillars of health: human, environmental, animal health and plant health, including food safety. This reflects the One World, One Health principle. The FPS Health is responsible for supporting and implementing federal policies in these four pillars through collaboration with the federated entities and in international organizations representing Belgium (including the EU, the Intergrated Pollution Prevention and Control Directive, United Nations agencies, United Nations Climate Summit Conference of Parties, WHO and the World Organization for Animal Health). The FPS Health recognizes that an effective health policy implies taking into account the factors that have a direct impact on (i) human health, including communicable diseases and NCDs, risky behaviours, the impact of work organization, and the quality of care and access to it; (ii) animal and plant health, including animal, plant and pest diseases, quality of the food chain and plant products; and (iii) environmental health, including climate change, preservation of biodiversity and the oceans, management of hazardous products and resources, and waste production. The One World, One Health principle adopted in Belgium holds the view that public health policies go far beyond a purely biomedical, curative or preventive approaches and must also include the health impact of determinants such as ambient air quality (indoor and outdoor); excessive or unsupervised use of chemicals or hazardous products, including the cocktail effect; the presence and spread of animal diseases; the quality of the food chain; and impacts of biodiversity loss on services provided by nature, food supply and mental health.

Economic incentives and taxation approaches. Environmental taxation represents an economic approach to increase the cost of environmental resource use and degradation. Currently, Belgium derives 2.2% of its GDP from environmental taxation, which is slightly below the OECD average of 2.3% but well below the revenue of countries such as Slovenia (4.5%) or Denmark (3.6%).

4.2.10 Recommended policy options for reducing the burden and inequities due to environmental pollution

Environmental pollution in Belgium is concentrated in urban and less-affluent areas, requiring policymakers to make an extra effort in targeting policy measures to reduce the gap in environmental inequities.

Recommended policy option 15. Strengthen skills and knowledge in the One Health approach
Coordination of environment and health actions and policies between the Federal Government, the communities and the regions continues to be the recommended way forward for achieving health and well-being.

- Identify co-benefits across sectors associated with single actions and approach environment and health challenges in an integrated manner as these are likely to result in more effective actions and better health outcomes.
- Use intersectoral and integrated collaboration between public and private organizations involved in the different pillars of health to support implementation of the One World, One Health principle; in addition, given the systemic nature of all the determinants of good health and well-being, use a long-term approach with structured collaboration with other policy sectors.
- It is recommended to continue developing and strengthening skills and knowledge in One Health, including surveillance systems, data sharing among relevant agencies and communication packages for various stakeholders.

**Recommended policy option 16. Increase environmental taxation**

Environmental taxation not only encourages development of sustainable and resource-efficient societies and industries; it also reduces environmental emissions and consequent health effects, and increases revenue for the national government. The increased income from higher environmental taxation could be exclusively spent on environmental interventions, providing further capacities for environmental protection, inequality reduction and related activities. The example of nitrogen oxide taxes in Sweden highlights the benefits of broader environmental taxes [Case study 6].

**Case study 6. Introduction of nitrogen oxide taxes in Sweden**

The nitrogen oxides charge in Sweden was introduced as early as 1992 for large combustion plants (106). The charge was based on measured emissions from electricity- and heat-producing boilers, stationary combustion engines and gas turbines that produced certain threshold amounts of energy per year. Initially it covered 200 industrial plants and was then extended to more plants. The tax rate was very high, and the revenue was largely redistributed to the companies. This encouraged the targeted plants to reduce their emissions of nitrogen oxides per unit of energy to the lowest possible level. Plants with high emissions relative to their energy output are net payers to the scheme, while plants with low emissions relative to energy output are net recipients. The nitrogen oxides charge has provided significant environmental benefits since its introduction.

**Recommended policy option 17. Develop a national strategy to promote and enforce environmental impact assessments at all spatial levels**

Adverse health impacts from the environment are often avoidable if adequately anticipated in advance.
• Use tools and approaches such as strategic environmental assessment, environmental impact assessment and health impact assessment at the planning stage to assess potential impacts on populations affected directly and indirectly, the hazard and risks for health, the ways health can be promoted and also the distribution of impacts across different populations.

• Use these assessment procedures to support direct exchange with different stakeholders and sectors and include public participation requirements (as illustrated in Case study 7 on health impact assessment in Andalusia, Spain).

**Case study 7. Health impact assessment in Andalusia, Spain**

Andalusia adopted health impact assessment for implementation of the Andalusian Environmental Health Plan (2008), which required health authorities to be included in all processes regulating environmental prevention and control. Subsequently in 2011 a Public Health Act for Andalusia established a regulatory text in which Health in All Policies approaches and health impact assessments are mandatory. This embedded health impact assessment systematically in decision-making processes and it meant that projects would be rejected if the health assessment had unsatisfactory results.

**Recommended policy option 18.** Identify areas and population groups with increased exposure to social deprivation and environmental harm and target measures to reduce their exposure

Those experiencing socioeconomic vulnerabilities in the form of income, housing, health-care and employment insecurities suffer the worst health and experience the greatest barriers to making healthy choices. Similarly, adverse environmental conditions arise from the development of pollution hotspots and inequalities within certain areas and population groups. To ensure these social and environmental inequities are adequately addressed or mitigated, a focus should be on identifying where best to target measures to decrease exposure levels and risks and ensuring that responses are inclusive. Case study 8 describes this type of approach in England (United Kingdom).

**Case study 8. Index of Deprivation in England (United Kingdom)**

The Index of Multiple Deprivation is the official measure of relative deprivation in England and is based on seven separate domains: income deprivation; employment deprivation; education, skills and training deprivation; health deprivation and disability; crime; barriers to housing and services; and living environment deprivation.

Data are available for more than 30 000 small area units across England. Analysis of the data for the indices allows an assessment of the inequality in local environmental and living conditions and for monitoring of changes over time. The approach enables social and environmental deprivation aspects to be merged and areas for prioritized action to be identified.
4.3 Promotion of an economy of well-being that builds trust

Three key barriers have been identified that prevent those left behind from improving their health.

**Barrier 1.** Those with the poorest health in Belgium and who are being left behind are most likely to be experiencing multiple forms of health and socioeconomic vulnerabilities in the form of income, housing, health-care access and employment insecurities. Single or siloed policies or interventions are not robust enough on their own to remove these barriers or to produce the rates of improvement needed to level up health and well-being within an acceptable time period.

**Barrier 2.** Well-intentioned policies may be mismatched to address the needs and barriers that are holding people back from better health. As in many Member States of the WHO European Region, mainstream universal policies in Belgium are based on evidence that seldom draws on an informed understanding of the reality of the lives of those who are left behind or that identifies how to directly reduce or remove the barriers they face when trying to live a healthy life and to prosper. As indicated by the profound inequalities in poverty, housing and access to medical care, access to services is extremely unequal despite most services being provided on a universal basis and every citizen having a right to benefit from the services. This suggests that policies and services in Belgium, although based on universal design, rely on individual responsibility to navigate the system. As a result, those with fewer capabilities and resources have greater problems in access and consequently lower uptake and higher dissatisfaction; they require more time and higher resource costs to navigate opportunities for healthy work, welfare support and health care. This leads to the observed higher levels of unmet needs, poorer mental health and higher risks of social exclusion for those already failing to be healthy.

**Barrier 3.** Urban and rural development policies and economic shifts have created pockets of concentrated inequities in health and insecurities in public goods for health equity in certain local areas within regions.

The following recommended policy options to mitigate these barriers are proposed.

### 4.3.1 Recommended policy options to promote an economy of well-being

The pandemic made it exceedingly clear that health and well-being affects all parts of our lives and that all parts of our lives affect our health and well-being. As a result, economy of well-being approaches, which were championed by the EU during the Finnish Presidency in 2019 and by the OECD, have gained significant ground in efforts focused on recovery and renewal [109]. This is embodied in the EU Council's Conclusions on the Economy of Well-being, 24 October 2019 [110] and is defined as “a policy orientation and governance approach which aims to put people and their well-being at the centre of policy and decision-making”. These approaches make the case that economies need to be re-orientated to deliver not only profits but also peace, stability, well-educated and informed citizens, and resilient, sustainable, environments for all, which is at the heart of the SDGs. Health and healthy populations are central to realizing these shared goals.

**Recommended policy option 19.** Shift to an economy of well-being that builds trust through coherent action for health and well-being across sectors and stakeholders
Improvements in health and reduction in health and social inequities have a positive impact on the economy, society and the environment’s well-being. For example, studies show that a 50% reduction in inequities in life expectancy between social groups would provide monetized benefits to European countries ranging from 0.3% to 4.3% of GDP (13). Investments in public goods for health do generate societal and economic benefits. For example, in a country of 10 million people, an investment of 0.1% of GDP in public goods for social protection, employment and safe housing would reduce limiting illnesses for 150,000 people in the second lowest income quintile. This would reduce health inequalities and increase human and social capital.

The use of policy approaches that are effective in addressing multiple vulnerabilities should be encouraged in Belgium. Two concepts support such an approach. The first, the use of integrated policy baskets, is based on the premise that there is no single solution to address health equities and so it is important to strengthen goals across entities and sectors. This is particularly pertinent given the diverse health and government structures of Belgium (Fig. 29). The second concept is the use of a proportionate universal policy approach, which proposes that actions should be universal but with an intensity and a scale that is proportional to the level of disadvantage seen.

Figure. 29. Example of a policy basket

• Use integrated policy baskets to increase the access, availability and affordability of essential goods for disadvantaged communities. Design policies based on the proportionate universal model to help to ensure that these actions are particularly directed at those who have the greatest level of disadvantage.

• Promote new forms of evidence and participatory governance because social cohesion, policy planning and implementation can be improved through political engagement and participation of local communities. A survey of governments in 25 European countries found that open and inclusive policy-making delivered greater trust in governments, high compliance with decisions reached, better outcomes at less cost, and acted as a driver for innovative solutions (112).
• Involve local communities in planning. Bottom-up approaches are crucial to policy-making for health equity. Local people and communities are holders of local knowledge, are connected to peer and social networks and can be partners in understanding problems and co-creating solutions. Tools available to work with local communities are community development, asset-based methods, social prescribing and place-based approaches [113–115].

• Utilize cultural and behavioural insights tools and participatory research, which involve representatives and the advocates of left-behind communities, who can help health policy-makers to understand how, why and in what context people behave and have different health risks and needs. Evidence from these new types of approach is already leading to more appropriate and impactful health policies, strategies and communication that actively engage the population, including those left behind. This approach, in turn, builds stronger trust between people and authorities for improving health. Trust and participation are increasingly seen as important capital assets to manage complex societal challenges and for improving the levels of commitment and sustainability of solutions. The WHO Regional Office for Europe has developed a behavioural insights survey tool for this purpose that has already been used in more than 30 countries and areas to help to inform national pandemic strategies [116].

• Encourage investment in local initiatives that create healthy community infrastructures and services as these can increase opportunities for healthy work and income security.

• Effective work with local communities for development efforts will improve the design and equity impact of health intervention and public goods for health, particularly in the areas of education and healthy employment practices. Belgium has some expertise and capacity in participatory planning and policy-making. This could be scaled up and utilized more systematically when designing proportionate universal policy approaches [see above], health promotion services and programmes to increase their equity impact.

• Encourage investment and allocation of resources at local levels to deliver public goods for health as there are social and geographical inequities in opportunities for work and livelihood, and in access and affordability of essential goods for health such as decent housing, food and fuel. Case study 9 illustrates local initiatives for community support in the United Kingdom.

**Case study 9. Local initiatives for community support, United Kingdom**

**Housing associations offering integrated housing, care and support services while employing local people**

Housing associations traditionally develop new homes for rent, repair and maintain existing homes and provide housing management services. In Wales (United Kingdom) these associations were supported by the Welsh Government’s housing strategy to achieve their strategic interests and extend their services for community development [117]. The associations were able to contribute to the policy objectives of the Government and their activity outcomes contributed to improving well-being, education skills and learning; reducing isolation; creating jobs and training opportunities; and tackling poverty. Partnerships with the public sector, charitable and private organizations were key enablers for both community outreach and funding. Activities carried out in one year included projects promoting financial and cultural inclusion, skills development for employment, and efforts to decrease the technological divide.
In face of austerity, think of community: The Deal in Wigan

Faced with severe budget cuts to public services, Wigan Council in England took the opportunity in 2014 to launch The Deal, which had at its heart a “new social relationship” between the Council and the local community with the aim of reducing public costs \(^{118}\). The underpinning principles were the promotion of self-reliance of residents plus an asset-based approach to services. To achieve this, support was given to foster a community-centred approach by transferring control and responsibility for services to community organizations to increase trust among residents, and reduce health-care costs through prevention and digitalization of health-care services. The implementation of The Deal required restructuring of relations not only with the community but also within the Council to move away from the top-down approach. It proved successful and Wigan Council saved £141.5 million.

4.4 Monitor and evaluate progress

**Monitoring the prevalence of NCDs, risk factors and inequities.** The Health Status Report, produced from data generated by the Health Interview Survey, has been published every five years since the early 1990s. The data platform for accessing the Belgian Health Interview Survey is a good example of enabling a stratified analysis of health outcomes and health determinants by spatial, social and demographic determinants. The Health Examination Survey was conducted for the first time in 2019, with a sample size of 1100 collected clinical measurements and bloods to assess population prevalence of diseases and risk factors to complement the Health Interview Survey. However, since the response rate was only 24%, the validity of data is questionable. Risk factor prevalence among adolescents is assessed with the Healthy Behaviour of School-aged Children Survey, which is conducted every four years by the French- and Dutch-speaking communities separately. Although Belgium has a timely updated Cancer Registry and registries for rare diseases, there are limitations in reliably assessing the population-level disease burden of chronic diseases such as diabetes, hypertension or IHD at the national level. One of the obstacles in developing a platform to combine these data is fragmentation of the health information systems across different regions.

**Monitoring the three dimensions of environmental health inequalities in administrative subdivisions.** The ELLIS project in Belgium integrates the three dimensions of environmental health inequalities (socioeconomic deprivation, environmental exposures and health outcomes) at the smallest level of administrative subdivision in Belgium \(^{119}\). As a result, ELLIS is intended to lead to a number of innovations relevant to Belgian policy-making and society: development of an area-level index of multiple deprivation for use in policy-making, integration of environmental stressors in the Belgian National Burden of Disease framework to allow for continuous monitoring of environmental burden of disease, development of a tool for monitoring environmental (health) inequalities and development and application of a health impact assessment tool for mitigating environmental (health) inequalities.

**Monitoring policy implementation and population-level impact.** During consultations for this report, it emerged that it is not customary for the public health sector to carry out policy evaluations and monitoring reviews. Implementation of tobacco control policies is monitored by the Ministry of Health under national tobacco control legislation, yet a regular review report on the level of policy implementation is not published. The implementation and impact of policies related to alcohol, nutrition and physical activity are also not evaluated on a regular basis to allow this information to be effective in supporting policy-making.
Health equity impact assessment. Although Belgium has expertise in health equity impact assessments, these are not routinely used. Platforms are being developed, such as the Belgian Policy Tracking Tool, an intelligence laboratory for national, regional and local policy-makers that will track trends in health and well-being and in coverage, investment and impact of policies on public goods for health.

4.4.1 Recommended policy options to improve monitoring and evaluation

**Recommended policy options 20.** Set health targets and identify indicators aligning with the NCD global monitoring framework and SDGs to fulfil the commitments made at the United Nations General Assembly.

Setting targets that are in alignment with the health strategy is useful in facilitating political commitment and organizational support, as shown by the success of the Millennium Development Goals in many countries. Targets can provide motivation for action by stakeholders. Regular monitoring can provide indications of the path for success. However, when setting the targets and identifying indicators it is important to identify inspirational yet realistic and achievable targets. These need to be measurable yet not overly simplistic so that they fail to capture the complexity of health and its determinants. A reasonable set of priority targets should be identified that can be measured using indicators which can be derived relatively easily to make the monitoring process cost effective. The indicators should comprise a mix of process indicators, outcome indicators, impact indicators and indicators that assess health inequities.

One of the examples of utilizing existing monitoring mechanisms is the use of the Health Interview and Health Examination Surveys to routinely derive data for the identified indicators. The Health Examination Survey, which was conducted in 2019, could be conducted at regular intervals in a similar approach to the WHO STEPS surveys (120), which have been carried out in over 100 countries globally.

A health information system assessment carried out in 2018 (unpublished data) explored opportunities to link up the existing data sources to monitor the prevalence of chronic diseases.

**Recommended policy option 21.** Monitor the population level impact of policies, especially the extent to which deprived and vulnerable groups are able to make healthy choices.

Methods to assess policy implementation should be planned as a part of the policy process while policies are being developed. This allows public health authorities to identify outcome indicators, monitor the state of implementation, assess whether expected outcomes are reached and if the expectations for the policy match the reality. The findings could then be used to realign expectations and implementation plans and can be used as advocacy tools to secure resources and political support for further improvements.

Participatory social and economic models are needed to assess the contribution of local organizations to the well-being, cohesion and resilience of local communities and to measure inequities in public goods for health. The accountability systems should also include vulnerable populations, including in detention or prisons. Strategic-level social value accountability methods, including health equity impact assessments and evaluations, should be routinely used in resource allocation and investment decisions and for incentives when awarding contracts.
4.5 Summary of all recommended policy options

The recommended policy options in this section fall into four overarching policy recommendations to achieve better health outcomes on NCDs in Belgium leaving no one behind.

1. **Promote strategic leadership and political commitment** to a Health in All Policies, using a whole-of-government approach with joint budgeting and accounting to harmonize goals, objectives and targets for health. Adopt government rules and regulations that limit unsuitable influences on public policies and that support the ability to make healthy choices.

2. **Ensure supportive environments to enable healthy choices** and that target the main behavioural risk factors for NCDs – tobacco use, alcohol consumption, unhealthy diet and physical inactivity – and exposure to environmental harm. Policies should be designed to reduce harm and health inequities by ensuring effectiveness among vulnerable groups and those of low SES.

3. **Shift to an economy of well-being** that uses integrated policy approaches across sectors and stakeholders to increase access, availability and affordability of essential goods for health for everyone, with resources used proportionately for the health and well-being needs of each group.

4. **Monitor and evaluate progress** on improving health, the environment, the economy of well-being and inequities in public goods for health, using health targets and indicators aligning with the NCD global monitoring framework and the SDGs, particularly the extent to which deprived and vulnerable groups can make healthy choices.
Conclusions
People in Belgium enjoy long lives yet nearly one fifth live with a disability due to a chronic disease. The gap in health inequities have widened since the late 2000s. As 90% of total mortality is due to NCDs and 40% of this disease burden is attributed to modifiable risk factors, preventing NCDs by controlling risk factors is a highly effective path to improve the quality of life, as well as reduce inequities. However, this cannot be achieved by a single government authority. Addressing the deep-rooted inequalities due to social, economic and spatial conditions need intersectoral partnerships for sustainable solutions.

The cornerstone for achieving healthy population-level policies are strategic leadership and political commitment that identify the importance reducing health and environmental inequities to achieve overall health improvement. A supportive environment makes decision-making by individuals healthier, easier and more sustainable. Population-level public health policies such as taxation to reduce the affordability of harmful products, including tobacco, alcohol and sugary drinks, are the fast-track options to narrow the inequalities gap. However, individual policies work more effectively and efficiently when coupled with other best buy polices such as making public environments free of tobacco and alcohol, making supportive treatments available for stopping harmful habits like tobacco smoking, making it easier to access green spaces, and ensuring that the environment is cleaner.

Tackling deep-rooted inequalities requires adopting a well-being economy approach wherein key stakeholders make specific efforts to meet the needs of the most vulnerable, such as by improving access to education and employment training, good quality housing and income insecurity in a more sustainable manner. The scientific and health communities have an important role in supporting governments by generating quality evidence of population-level data on policy implementation and impact.

A Health in All Policies approach where all parties come together and become jointly accountable will lead to a more sustainable approach to improving health and well-being for all in Belgium.


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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.

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