

The Economic Impact of Overweight & Obesity in 2020 and 2060

2nd Edition with Estimates
for 161 Countries



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Authorship and original sources

This document has been written jointly by staff at the World Obesity Federation and RTI International based on the publication:

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Introduction

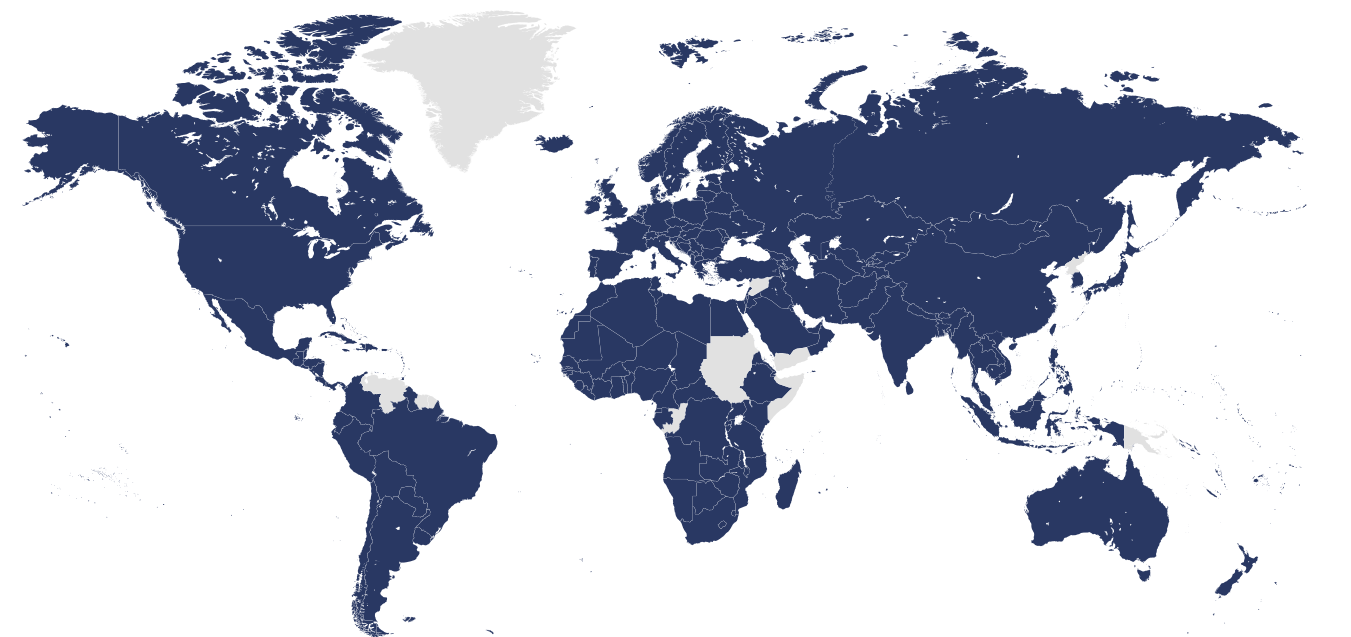
By 2030 it is predicted that 1 in 5 women and 1 in 7 men will be living with obesity (BMI $\geq 30\text{kg/m}^2$), equating to over 1 billion people globally.¹

Obesity-related ill-health accounted for over 5.0 million deaths globally in 2019, with more than half of these deaths occurring among people under 70 years old.² The rise in obesity prevalence has both health and economic consequences but the latter have not been explored greatly at a global level. A better understanding of the economic consequences of overweight and obesity should help strengthen the case for action.

To build the evidence, RTI International and the World Obesity Federation have estimated the likely economic impact of overweight and obesity over the next 40 years across 161 countries (covering around 97% of the world's population). The results are summarised in the present publication.

The evidence presented here greatly extends the data from the analysis of eight countries published in 2021 by the World Obesity Federation (see [The Economic Impact of Overweight and Obesity in Eight Countries: Summary Report](#)). The current report is based on data published in 2022 by Okunogbe et al. in *BMJ Global Health*.³

Figure 1. Map showing the 161 countries included in the present edition



Afghanistan	Bosnia and Herzegovina	China	El Salvador	Bissau	Kuwait	Mexico	Pakistan	Singapore	Tunisia
Albania	Botswana	Colombia	Equatorial Guinea	Guyana	Kyrgyz Republic	Moldova	Panama	Slovak Republic	Turkey
Algeria	Brazil	Comoros	Guinea	Honduras	Lao PDR	Mongolia	Paraguay	Slovenia	Turkmenistan
Argentina	Brunei	Congo	Estonia	Hungary	Latvia	Montenegro	Peru	South Africa	Uganda
Armenia	Darussalam	Costa Rica	Eswatini	Iceland	Lebanon	Morocco	Philippines	Spain	Ukraine
Australia	Bulgaria	Côte d'Ivoire	Ethiopia	India	Lesotho	Mozambique	Poland	Sri Lanka	United Arab Emirates
Austria	Burkina Faso	Croatia	Fiji	Indonesia	Libya	Myanmar	Portugal	Sweden	United Kingdom
Azerbaijan	Burundi	Cyprus	Finland	Iran	Lithuania	Namibia	Qatar	Switzerland	United States
Bahrain	Cabo Verde	Czech Republic	France	Iraq	Luxembourg	Nepal	Rep. of Korea	Tajikistan	Uruguay
Bangladesh	Cambodia	Democratic Republic of Congo	Gabon	Ireland	Madagascar	Netherlands	Romania	Tanzania	Uzbekistan
Barbados	Cameroon	Georgia	Gambia	Israel	Malawi	New Zealand	Russian Federation	Thailand	Vanuatu
Belarus	Canada	Germany	Guinea	Italy	Malaysia	Nicaragua	Rwanda	The Bahamas	Vietnam
Belgium	Central African Republic	Ghana	Guinea-Bissau	Jamaica	Maldives	Niger	Samoa	Timor-Leste	West Bank and Gaza
Belize	Dominican Republic	Greece	Guatemala	Jordan	Mali	Nigeria	Saudi Arabia	Togo	Zambia
Benin	Ecuador	Guinea	Kenya	Kazakhstan	Malta	North Macedonia	Senegal	Tonga	Zimbabwe
Bhutan	Chad	Egypt			Mauritania	Norway	Serbia	Trinidad and Tobago	
Bolivia	Chile				Mauritius	Oman	Sierra Leone		

Key takeaways

1. Without interventions, the economic and societal impact of overweight and obesity will be substantial for countries in all regions.

Taking account of increases in population levels and changes in age distributions, and assuming the trends in obesity prevalence continue, the global economic costs of overweight and obesity are predicted to rise from a little under US\$ 2 trillion in 2020, to over US\$ 3 trillion by 2030, and more than an astonishing US\$ 18 trillion by 2060 (all at 2019 prices).

The rise in costs will especially affect upper middle-income countries as well as higher income countries, and will be seen in every region of the world.

Figure 2. Estimated economic costs in 2020 to 2060 in country income group
US\$ billions at 2019 prices. Income groups defined by World Bank

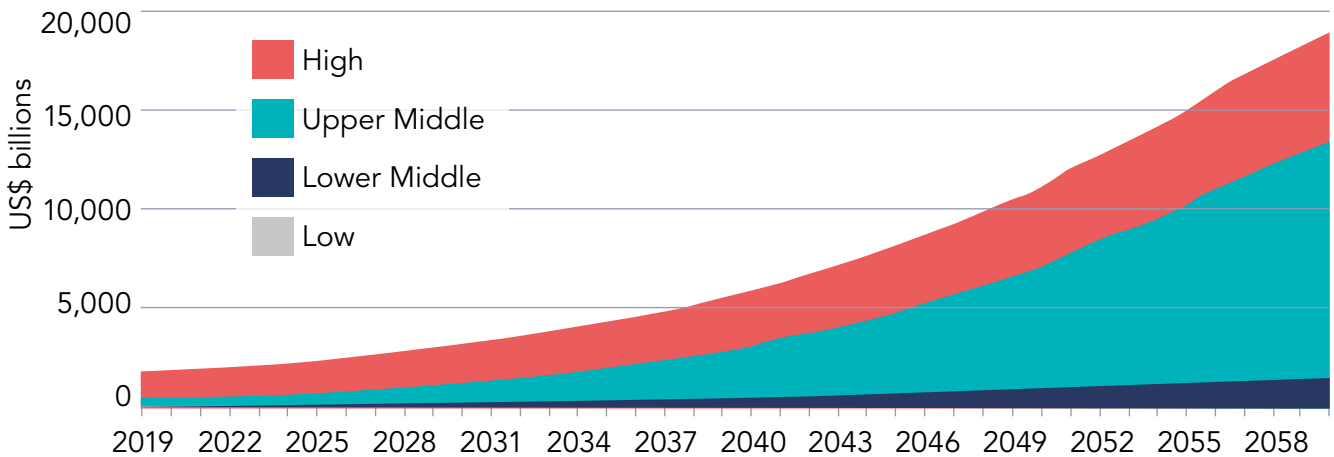
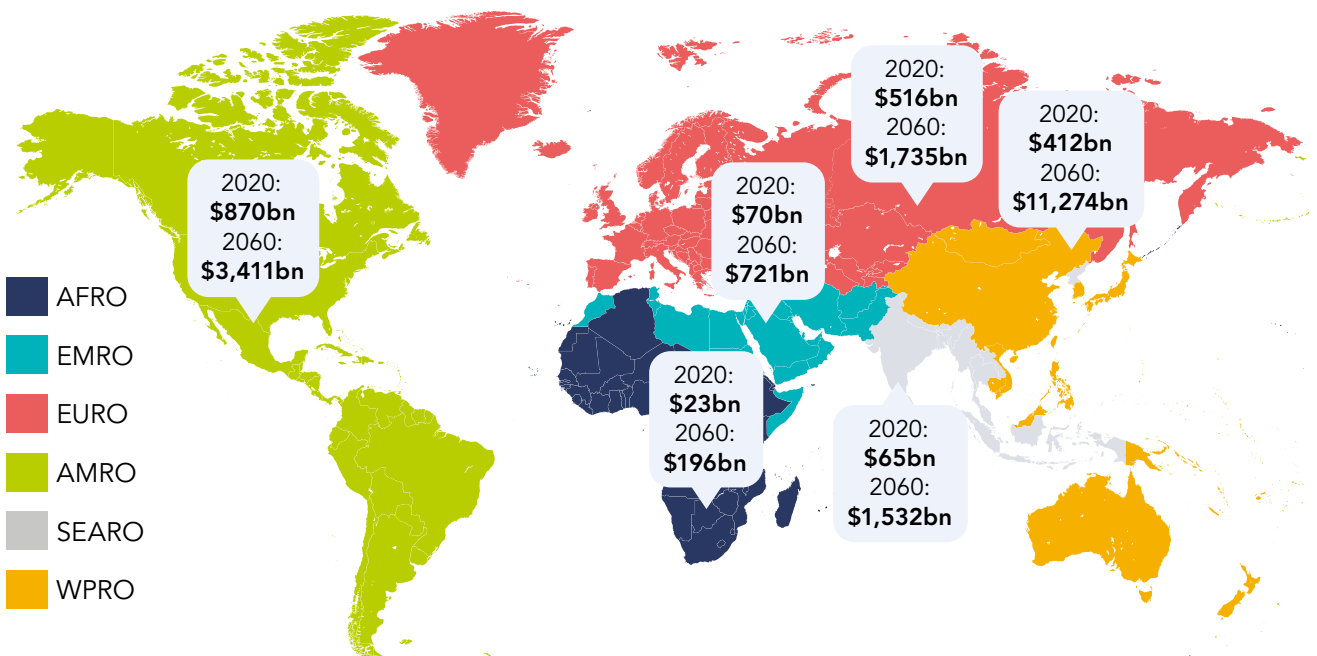


Figure 3. Estimated economic costs in the World Health Organization’s regions, 2019 and 2060
US\$ at 2019 prices.



2. High levels of overweight predicted

On present trends, by 2060 the large majority of countries are projected to experience overweight and obesity prevalence levels above 70% of the entire population, including children. The table below gives examples of countries with very high prevalence levels, from which it can be seen that the large majority are middle-income countries.

Table: Examples of countries predicted to have over 88% of the entire population (adults and children) experiencing overweight or obesity by 2060.

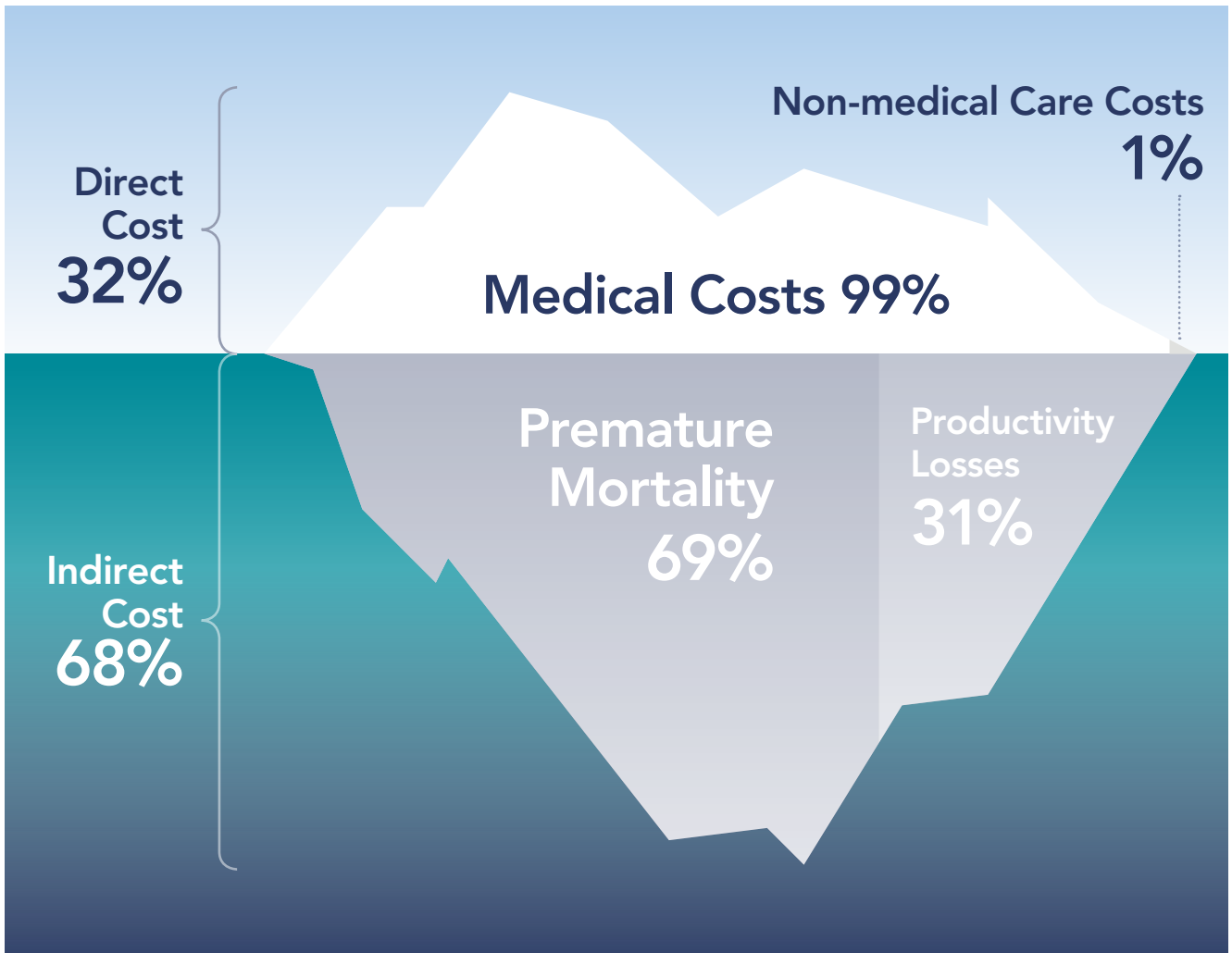
	Overweight prevalence 2060		Overweight prevalence 2060
Samoa	97%	Jamaica	90%
Oman	95%	Montenegro	90%
Costa Rica	94%	Syrian Arab Republic	90%
Turkey	94%	Egypt	89%
Malaysia	94%	Lebanon	89%
Algeria	93%	Ireland	89%
Dominican Republic	93%	Qatar	89%
Saudi Arabia	93%	Panama	89%
Botswana	92%	Guatemala	89%
El Salvador	92%	Mexico	89%
Jordan	92%	Libya	89%
Iran	92%	Bolivia	88%
South Africa	92%	Brazil	88%
United States of America	91%	Bahamas	88%
Paraguay	90%	Kuwait	88%

Increases in overweight and obesity prevalence are based on current trajectories, taking account of changes in age structures over the period to 2060. Anticipated economic costs are a result of the changes in population size, the costs of health care and the strength of the health system, likely costs of lost production taking account of wage structures and expected employment rates in different sections of the population.

3. Economic costs of the consequences of overweight and obesity

For the present report, 'economic costs' include both the medical and social care costs and the 'indirect' costs following poor health and death as a result of obesity-related chronic diseases, and consequential lost economic productivity. As the diagram indicates, the 'invisible' indirect costs to the economy are significantly higher than the 'visible' health and social care costs.

Figure 4. Breakdown of the economic costs of obesity used for the current prediction of the economic costs of overweight and obesity (2019 data).



4. Costs to national economies

The economic costs of obesity can be estimated as a proportion of total Gross Domestic Product (GDP). For 2020 the economic costs ranged from over 1% of GDP across African Region countries up to more than 3% of GDP across the Region of the Americas. By 2060 the estimated costs of overweight are expected to rise significantly, ranging from over 2% of GDP in African Region countries to over 4% of GDP in the Americas and over 5% of GDP in countries of Middle East (EMR). Across the 161 countries in total, the economic costs of overweight and obesity are projected to exceed 3% of world GDP in 2060.

Large savings could be made if the causes of the rising prevalence of overweight and obesity are tackled. Figure 6 shows the estimated savings under two different scenarios: (i) slowing the rise in overweight prevalence (a modest reduction of 5% in the projected prevalence of overweight and obesity combined), and (ii) stopping the rise in overweight prevalence (keeping the 2019 prevalence levels stable with no further increase through to 2060).

Figure 5. Potential savings from reducing the rise in overweight prevalence





	Slowing the rise in overweight and obesity prevalence by 5% below current projected levels will provide annual savings averaging around 7% of the projected costs	Saving US\$ 430 billion worldwide every year, 2020-2060 (at 2019 prices) 
	Stopping the rise in overweight and obesity prevalence at 2019 levels through to 2060 will provide annual savings averaging 23% of the projected costs	Saving US\$ 2.2 trillion worldwide every year, 2020-2060 (at 2019 prices) 

Table: Countries with economic costs of overweight and obesity projected to exceed US\$ 100 billion in 2060

	2060 US\$	2060 %GDP
China	\$10,108bn	3.06%
United States	\$2,622bn	4.62%
India	\$839bn	2.47%
Korea, Rep.	\$411bn	3.41%
Indonesia	\$394bn	4.70%
Germany	\$251bn	3.52%
Brazil	\$218bn	4.66%
Japan	\$198bn	2.18%

	2060 US\$	2060 %GDP
Thailand	\$181bn	6.36%
United Arab Emirates	\$179bn	11.04%
Canada	\$162bn	3.74%
United Kingdom	\$162bn	2.41%
Australia	\$158bn	3.49%
Saudi Arabia	\$150bn	5.62%
Mexico	\$139bn	5.01%
France	\$133bn	2.39%
Turkey	\$133bn	3.18%
Russian Federation	\$128bn	4.57%
Malaysia	\$105bn	3.98%
Vietnam	\$103bn	2.81%

Table: Countries with economic costs of overweight and obesity projected to exceed 5% of their GDP by 2060.

	2060 US\$	2060 %GDP
Vanuatu	\$307m	12.06%
United Arab Emirates	\$179bn	11.04%
Trinidad and Tobago	\$4.9bn	10.20%
Barbados	\$864m	9.62%
Kuwait	\$33bn	9.42%
Mauritius	\$6.4bn	8.89%
Timor-Leste	\$416m	8.56%
Qatar	\$69bn	7.97%
Brunei Darussalam	\$1.9bn	7.82%
Bahrain	\$11.1bn	7.40%
Bulgaria	\$10.2bn	7.08%
Kyrgyz Republic	\$2.4bn	7.00%
Fiji	\$1.0bn	6.98%
Azerbaijan	14.9bn	6.66%
Nicaragua	\$2.9bn	6.64%
Thailand	\$181bn	6.36%
Libya	\$10bn	6.24%


	2060 US\$	2060 %GDP
Samoa	\$103m	5.94%
Sri Lanka	\$25bn	5.90%
Jamaica	\$1.5bn	5.85%
Ukraine	\$21bn	5.69%
Montenegro	\$1.1bn	5.65%
Saudi Arabia	\$150bn	5.62%
Bosnia and Herzegovina	\$3.8bn	5.53%
Belize	\$482m	5.52%
Iran, Islamic Rep.	\$43bn	5.52%
Morocco	\$25bn	5.45%
Ecuador	\$16bn	5.42%
Tunisia	\$7.3bn	5.33%
Tonga	\$62m	5.28%
Central African Republic	\$361m	5.24%
North Macedonia	\$1.9bn	5.24%
Zimbabwe	\$1.9bn	5.23%
Turkmenistan	\$22bn	5.17%
Bahamas, The	\$1.4bn	5.16%
Albania	\$3.1bn	5.15%
Mongolia	\$4.3bn	5.14%
Mexico	\$139bn	5.01%

Care with the language of costs

The causes of weight gain are complex. Strong social and financial pressures to consume poor quality diets, widespread incentives for sedentary behaviour at home and in the workplace, genetic makeup, increasing evidence for environmental chemicals disrupting normal metabolism, and a lack of health care services to support weight loss are all issues that largely beyond the control of individuals.

It follows that the economic costs of overweight and obesity are not attributable to individual behaviour but are a consequence of the social and commercial priorities that shape the 'obesogenic' environment now affecting every country in the world. Responsibility for tackling overweight and obesity and reducing their costs lies with those who have the power to reduce the obesogenicity of our environments.

"As patients, we don't want to be looked at as an economic statistic, or a burden. We are people living with a disease, so any measures taken as a result of looking at the costs of obesity should be with a call to action for better care, improved access to treatment, and the removal of bias from society."



Individuals living with obesity should not be held responsible for economic impacts related to obesity. There are many factors that play a role in obesity, and it's important that any economic impact is not blamed on individuals.

Why does this matter?


Understanding the long-term impacts of overweight and obesity is essential to avoid rising future costs.

Measuring the economic impacts of NCDs helps us understand the scope of a disease's impact, the urgency for action, and the costs of inaction. Economic impact studies demonstrate the potential benefits of acting to reduce diseases and have proven essential to galvanise policy actions to create a healthy society.

When looking to address the challenges of overweight and obesity, we already know the

root causes of the obesity pandemic, but we need to push for commitment to policies. All governments around the world agreed to voluntary WHO targets in 2013 to halt the rising prevalence of obesity by 2025 - yet no country is on track to meet them. Calculating economic impacts - especially in resource-strapped countries - can get policymakers' attention and help make the case that the most economically beneficial solution is to take action now.

The primary impetus for evidence-based action on obesity should be for the health and wellbeing of our populations, including those living with overweight and obesity. We all deserve to thrive in healthier environments and to have access to affordable healthcare.



Economic impact studies demonstrate the potential benefits of acting to reduce diseases and have proven essential to galvanise policy actions to create a healthy society.

Methodology

How did we measure the impact of overweight and obesity?

This study estimates the current (2019 data) and future (2020 through to 2060) economic impact of overweight and obesity from 28 obesity-related diseases, for 161 countries.⁴ The estimated economic impacts are adjusted to 2019 US dollar values.

In this study, overweight in adults is defined as a body mass index (BMI) of 25-29.9 kg/m² and obesity as a BMI of 30 kg/m² and above. For children, overweight is defined as weight one to two standard deviations above the median weight and obesity as more than two standard deviations above the median.

Our data sources

We used country-specific data sourced from published studies and databases published by international organisations.

Our approach:

World Obesity and RTI International developed a model to estimate the economic impact of overweight and obesity from a societal perspective.

The components of the model are shown in Figure 6. Our model is mainly divided into two components: direct economic impacts and indirect economic impacts.

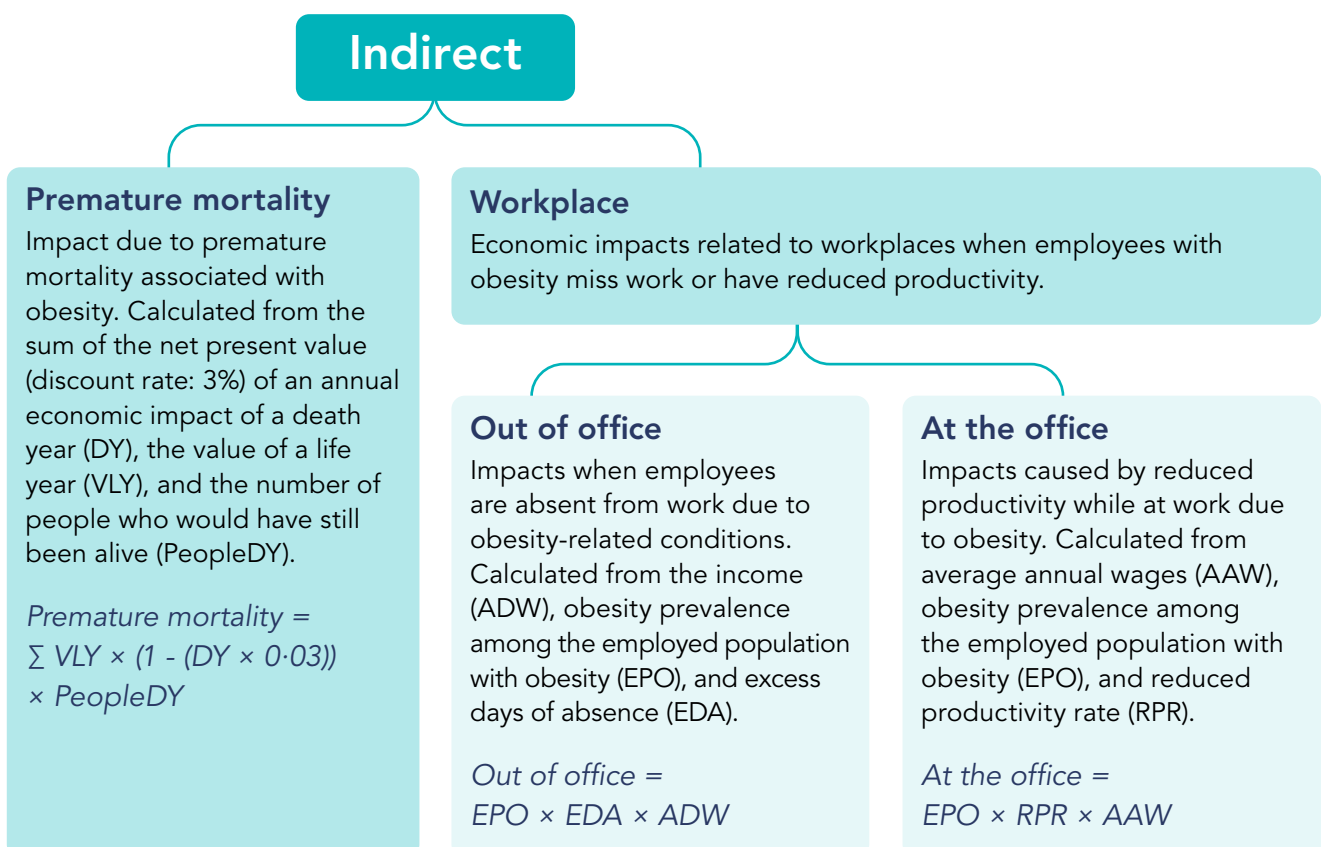
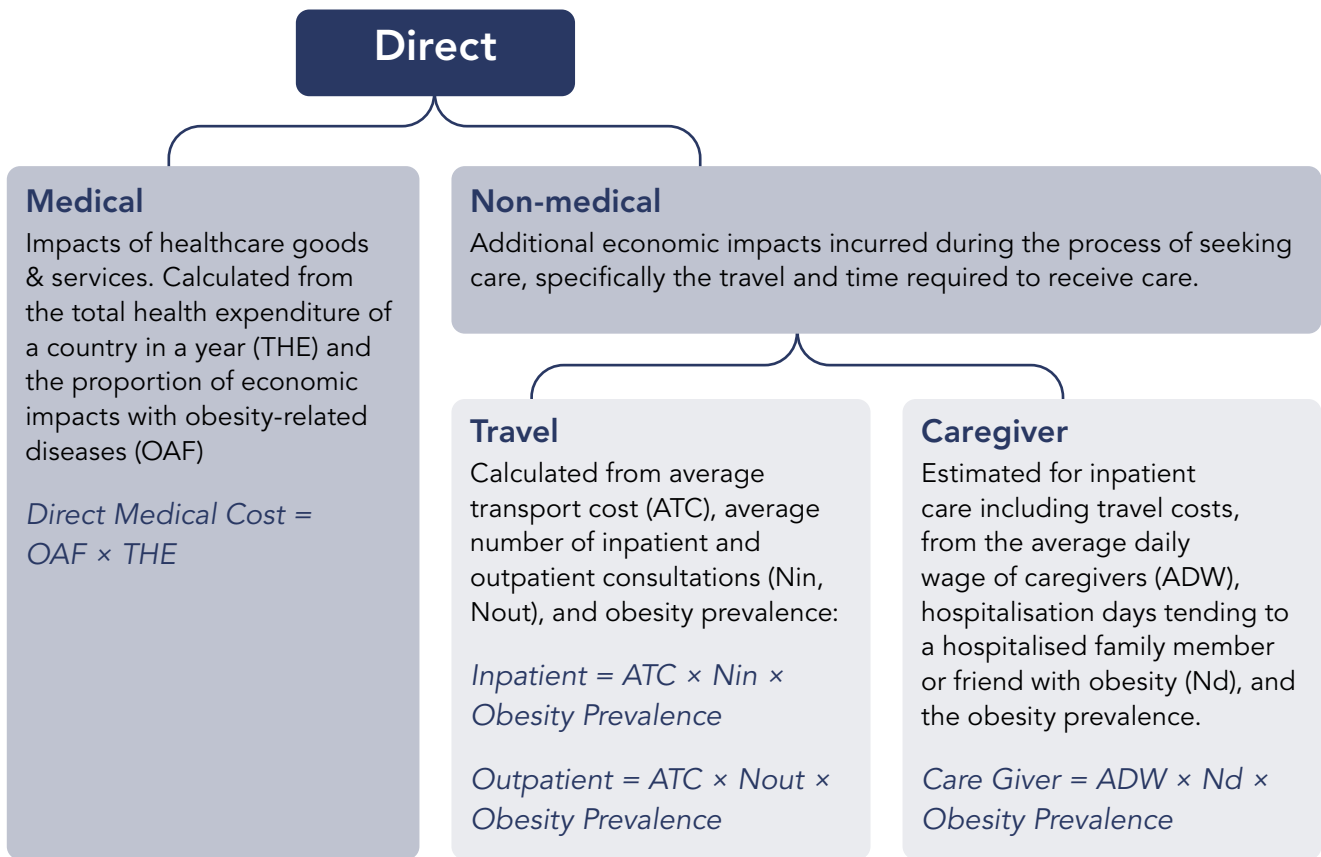
- Direct economic impacts include the costs of obesity-related healthcare needs.
- Indirect economic impacts include the costs of productivity losses and reduction in human capital from premature mortality. Studies show that some people with obesity miss more days of work and many are unable to work to their full potential when they are at work. This is likely due to medical issues they are managing. Additionally, premature mortality from obesity-related conditions indicates a loss of potential future contributions to the economy.



The economic impacts are defined as the cost of medical treatment for obesity-related diseases and the economic loss from obesity-attributable mortality and morbidity

Scheme for estimating the economic impact of overweight and obesity

Economic impact = Direct impact + Indirect impact



Estimation process

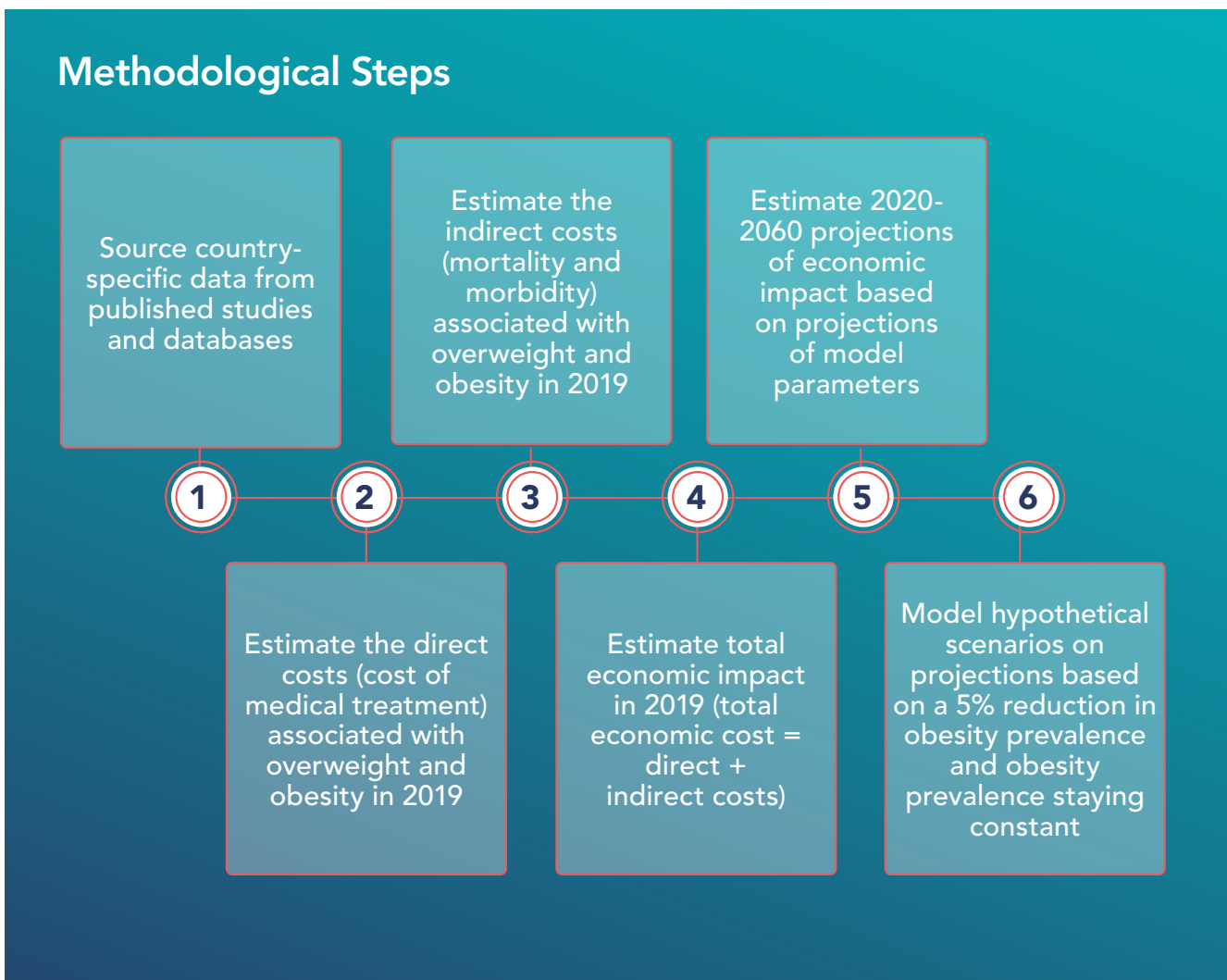
Our two-step estimation process:

STEP 1: Using the model outlined on the previous page we estimated the economic impact of overweight and obesity in 2019.

STEP 2: We estimated future economic impact from 2020 to 2060. Projections extended the modeling approach used in Step 1 and were based on three hypothetical scenarios around obesity prevalence.

- **Projection:** We estimated country-level obesity prevalence based on NCD-RisC data from 1975 to 2016 for men, women, boys, and girls.
- **A 5% Reduction of Projection:** We estimated economic impact based on a 5% reduction in obesity prevalence from our Scenario 1 projection.
- **Constant:** We estimated economic impact based on holding obesity prevalence constant at 2019 levels.

Figure 6. The six-step approach to calculating impact under different scenarios



Addressing stigma

Weight stigma refers to the discriminatory acts and ideologies targeted towards individuals because of their weight and size.

Weight stigma is often the result of a misunderstanding of the complex causes of obesity. Weight gain is often attributed to individual failure alone and there is a lack of information and understanding about the complex mix of genetic, environmental, and biological factors that drive it. The dominant obesity narrative often results in blaming people with obesity for their disease, and perpetuates harmful stereotyping of people with obesity as lazy and lacking in willpower.

As with economic impact studies of any major disease that looks at medical costs and lost productivity, measuring the economic impact of obesity demonstrates the need for both compassion and support for individuals. It strengthens calls for investment in

comprehensive care and policies that focus on the prevention and management of obesity in healthcare systems and beyond.

There are also recognised challenges with economic terminology when discussing obesity despite our intended focus on impact rather than cost. We challenge ourselves and others to talk about obesity sensitively and with care and be conscious of how our language may be interpreted. At the same time, this study demonstrates that investment in earlier, evidence-based treatment of obesity alongside the implementation of policies that address the obesogenic environment would result in better outcomes for individuals and economies.

The economic consequences of overweight and obesity highlighted in this study, along with the challenges to individual and population health, mean we must join forces to address the root causes of overweight and obesity and invest in evidence-based obesity care.



Insights from patient organisations

Costs of weight stigma and discrimination that fall on individuals are not included. These range from the impact of bullying to professional costs such as the reduced likelihood of promotion. These costs are too often overlooked but are increasingly being explored.

"People living with obesity should have the right to evidence-based care. They should be treated with respect and should be free to join and contribute to the useful life of their countries, regardless of whether or not they have larger bodies. People under treatment (medical and psychological) tend to make decisions that help them stay healthy."

Obesidades Mexico

"As patients, we don't want to be looked at as an economic statistic, or a burden. We are people living with a disease, so any measures taken as a result of looking at the costs of obesity should be with a call to action for better care, improved access to treatment, and the removal of bias from society."

Global Obesity Patient Alliance

 Global Obesity Patient Alliance

 Obesidades

"The global economic and personal costs of obesity are important. We need to disrupt the outdated blame narrative and invest in action for healthier and happier people."

Weight Issues Network (Australia)

 Weight Issues Network

Policy recommendations

The economic impacts are far too great to ignore.

Leaders at the national and international level must take immediate action to reduce the economic impact of overweight and obesity in their countries and communities. Obesity has many root causes, all of which must be addressed for us to create a healthier future. The obesity 'ROOTS' framework, launched by the World Obesity Federation in 2020, provides suggestions for obesity policy and advocacy that can be adapted to different national settings.



- R** Recognise obesity
- O** Obesity monitoring
- O** Obesity prevention
- T** Treatment of obesity
- S** Systems-based approach

In recognition of the economic impact of obesity and in line with the ROOTS framework, we call on policymakers to:

R Recognise obesity as a disease and a risk factor, and promote understanding of its complexities

Obesity is not only a risk factor for other diseases, it is also a complex, relapsing, multifactorial disease in its own right. Further, obesity has several drivers including genetics, the environment, commercial factors, healthcare access and mental health, among others. Recognising that obesity is a disease with multiple drivers is vital to help shift the public discourse away from an individual blame narrative. A shift in the narrative should in turn encourage people to seek medical care, increase access to treatment for all that need it, foster investments in obesity research, and demonstrate the need to prioritise and improve the education of health professionals to prevent and manage obesity. Recognising obesity as a disease and a risk factor can also help reduce weight bias and stigma, another driver of obesity that has repercussions on mental and physical wellbeing and prevents people from seeking necessary medical care.

O Develop obesity surveillance and monitoring programmes and adopt evidence-based strategies for addressing obesity

All approaches to the prevention, management and treatment of obesity should be data-driven and evidence-based. Obesity monitoring and surveillance allows us to keep track of obesity trends and fully understand its determinants, treatment options, economic

impact, and policy consequences. Research must be funded, supported and acted upon by governments, and must actively seek out the involvement of people with lived experience of obesity. Work such as this – that interrogates the long-term impacts of obesity – helps push for commitment to evidence-based policy action by making the case clear to national decision-makers.

Implement obesity prevention and management policies across the life course

Halting the rise in overweight and obesity requires policies that can help prevent obesity throughout the life course and create healthy environments. Investing in childhood obesity prevention and treatment is vital to halt a course of poor health and social outcomes in adulthood, while addressing adult obesity can prevent the risk of obesity being passed down through generations. Equally, addressing the commercial determinants of health and improving the environment we live in is essential for halting the rise in overweight and obesity, supporting the maintenance of a healthy weight, and helping people to retain health gains from interventions.

To help address the environmental drivers of obesity, we encourage policymakers around the world to reaffirm their previous commitments to childhood obesity and NCDs and prioritise population-based regulatory and fiscal measures to create health-promoting environments, by:

- Restricting the marketing of foods and drinks to children
- Taxing sugar-sweetened beverages
- Mandating front of pack labelling
- Limiting portion and package sizes
- Increasing access to safe spaces for physical activity

As well as addressing the drivers, policymakers must adopt rigorous principles of engagement to prevent commercial interests from undermining health goals.

Ensure treatment is equitably offered and accessible to all who want it

In recognition of the fact that obesity is a disease, we call for obesity treatment to be integrated into Universal Health Coverage as an “essential health service.” This would ensure that children, adolescents and their families have equitable access to adequate prevention and treatment services. In addition, health services should build multi-disciplinary teams to support people living with obesity and provide specialist and general training in weight management for healthcare professionals and medical students. We urge political leaders to build strong health systems that are equipped to manage and treat obesity and related illnesses.

Adopt systems-based approaches to address obesity

Interventions to address obesity will require a ‘whole of government’ approach and actions from multiple sectors to create a healthier environment for all children and their families. It is important to use a systems-based approach and engage the food, health, education and other key sectors, as well as involving communities, families and children, and civil society organisations. Ministries of health, education, social development, finance, media/culture, food/agriculture, welfare and transport all have a responsibility in supporting the development of healthy, sustainable environments for everyone.

Conclusion

Obesity is reaching epidemic proportions. It is a disease with deep, societal roots that require decisive action from everyone.

The magnitude of the economic impacts – present and future – associated with overweight and obesity are significant and widespread. The time for evidence-based action on our obesogenic environment and the other roots of obesity has arrived.

COVID-19 has demonstrated that we are capable of worldwide, societal responses to health challenges when there is political will and

resources are made available. As a major risk factor for severe COVID-19 disease, obesity has been in the spotlight. We argue that we must use this renewed energy for evidence-based, sustainable change.

Improved understanding of the long-term impact of overweight and obesity on individuals, communities and health systems must push us forward and onwards in our pursuit for a healthier world for us all. Comprehensive, cross-sectoral policies that help prevent, manage and treat obesity will be vital to reducing its prevalence globally. Adopting the ROOTS framework on obesity gives us the tools to get there.



Endnotes

1. World Obesity Federation. *World Obesity Atlas 2022*. London: WOF, 2022.
2. GBD 2019 Risk Factor Collaborators. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet*, 2020; 396:1223-49.
3. Okunogbe A, Nugent R, Spencer G, Powis J, Ralston J, Wilding J. Economic impacts of overweight and obesity: current and future estimates for 161 countries. *British Medical Journal Global Health*, 2022 (in press).
4. Data sources includes WHO Global Health Expenditure Database, OECD Health Policy Studies, NCD. Risk Factor Collaboration (NCDRisC), Global Burden of Disease Study (GBD), United Nations Population Division (UNPD), World Bank DataBank, OECD SPHeP NCDs Model - Labour Market Module, World Bank World Development Indicators, among others.



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