



In partnership with:



Battling Obesity in ASEAN





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Executive Summary

Obesity is a complex and chronic disease that is caused by various factors, ranging from genetic susceptibility, high energy-dense nutrition, low physical activity and psychosocial factors. In Southeast Asia, the prevalence of obesity has been increasing – there was a 40% increase in adult obesity rates from 1990 and 2013¹. By 2030, it is estimated that over 52.4 million adults and 21 million children and adolescents aged five to 19 years old will be living with obesity in the region².

This has serious health complications, as obesity is linked to and a risk factor of more than 200 diseases, including cardiovascular disease, hypertension and stroke, type-2 diabetes and certain types of cancer^{3,4}. In ASEAN, the mortality rate resulting from obesity-related complications was estimated at 395,000 in 2017 alone⁵. The COVID-19 pandemic has also highlighted the strong relationship between obesity and worse complications from infectious diseases, including higher likelihood of hospitalisation, admission into intensive care units and subsequently mortality⁶.

Beyond health, the direct and indirect economic costs of obesity is significant, valued at \$7.5 billion (7.7% of total healthcare expenditure and 0.3% of GDP) and \$3.8 billion (5.1% of total healthcare expenditure and 0.2% of GDP), respectively⁷.

While obesity is not a new global health challenge, many barriers still exist for its effective prevention and management and existing policies do not fully support a holistic,

equitable and person-centred approach to address the multifactorial aspect of the disease. For example, widespread stigma exists not only within society, but also in healthcare settings, and consequently people living with obesity has the misconception that it is their personal and familial responsibility to tackle the disease.

In ASEAN, Member States have committed to address non-communicable diseases largely, including obesity, to promote a healthy, caring and sustainable ASEAN community, through the ASEAN Post-2015 Health Development Agenda (APHDA)⁸. In addition, Member States agreed to commit resources to expand their efforts to “strengthen the capacity of health systems...to improve early management of noncommunicable diseases as well as prevent and manage complications” through the 2013 Bandar Seri Begawan Declaration⁹.

While Member States have adopted measures to promote healthy eating and physical exercise, which are fundamental in obesity prevention strategies, additional and systemic interventions are needed to address the multi-factorial nature of obesity.



Key Recommendations

R

Recognise officially that obesity is a chronic, multifactorial disease as well as a driver of other diseases, with serious implications for individuals, families, societies and economies.

O

Obesity monitoring and surveillance, and innovative research into the causes and effective strategies for preventing and treating obesity, must be vigorously promoted and supported.

O

Obesity prevention strategies must be developed, tested and implemented across the life course, from pre-conception, through childhood, and into older age.

T

Treatment of obesity, using evidence-based, dignified, non-stigmatising and person-centred approaches—including behavioural, pharmacological, digital, nutritional, physical-activity-based and surgical interventions—should be accessible to all people with obesity.

S

Systems-based approaches should be applied to the management of obesity, aimed at strengthening health systems, enabling obesity's incorporation into primary and secondary care and addressing the environmental, social and commercial roots of obesity (including health, food, transport, water and sanitation, education and economy).

Key recommendations are adapted from the World Obesity Federation's ROOTS framework¹⁰. For a list of recommended actions for stakeholders in the ASEAN region, refer to the 'Key Recommendations for ASEAN' section.

Introduction

According to the World Health Organization (WHO), obesity is defined as “a chronic complex disease defined by excessive adiposity that can impair health... (which) is in most cases a multifactorial disease due to obesogenic environment, psycho-social factors and genetic variants”¹¹.

The genetic susceptibility of developing obesity is estimated at 40-70%¹², with studies indicating that family history of obesity is associated with the onset and severity of childhood obesity¹³. The development of obesity is also influenced to socioeconomic status. In higher-income countries, individuals with a higher socioeconomic status are less likely to develop obesity, while in lower-income countries, individuals with a higher socioeconomic status are more likely to develop obesity¹⁴.

Consequently, obesity is often classified only as a nutrition issue, which is modifiable through

While obesity is caused by multiple factors, it has long not been recognised as a non-communicable disease because of its status both as a risk factor and a disease.

personal choice and behavioural changes, rather than a complex, chronic and relapsing disease that requires a holistic management plan across the life course. For example, only 33% of people with obesity and 44% of healthcare professionals agreed that genetics were a barrier of obesity, showcasing a lack of understanding to the many root causes of obesity¹⁵.



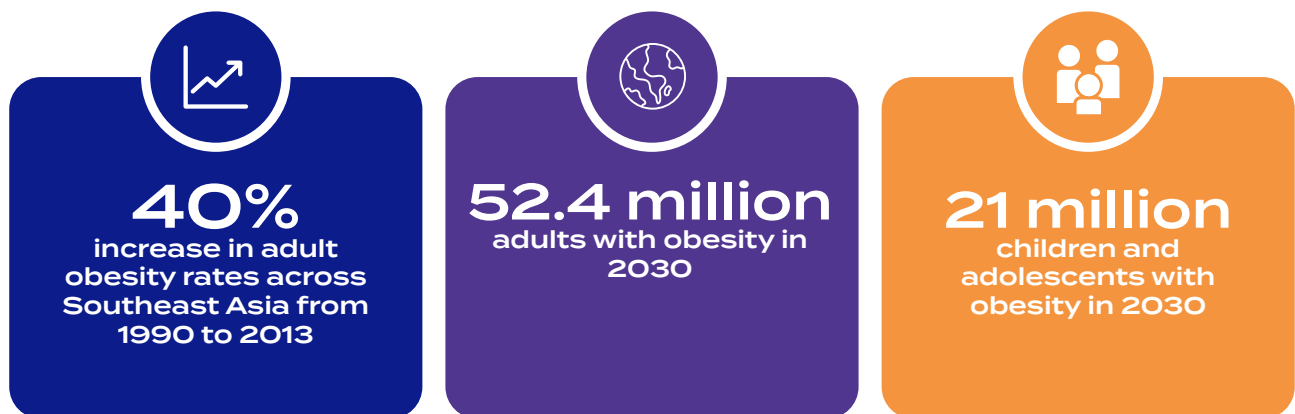
The Prevalence Of Obesity In ASEAN

Obesity has been recognised as an epidemic by the WHO due to the alarming increase in both adults and children globally¹⁶. Between 1975 and 2016, the global prevalence of adult overweight and obesity increased from 21.5% to 38.9% and no country experienced a decline in rates^{17,18}. Within the same timeframe, in children and adolescents aged 5 to 19, it was estimated that obesity has increased more than 10-fold globally from 11 million to 124 million¹⁹.

Its prevalence was once associated with high-income countries, but obesity is also now increasingly becoming more prevalent in low- and middle-income countries, with more than one third of countries facing a double impact of obesity and undernutrition – children who experience undernutrition in early life and

more likely to become overweight in later life²⁰. The shift in the impact of obesity towards poorer countries has been attributed to a multitude of factors, including industrialisation, urbanisation, the increased availability of processed food, carbohydrate- and fat-dense diets, as well as decreased access to fresh, healthy food options.

According to the Asian Development Bank, there was nearly a 40% increase in adult obesity rates across Southeast Asia from 1990 to 2013 (Table 1)^{21*}. In 2022, it is estimated that more than 30 million adults are living with obesity in the region²² and this figure is expected to increase to over 52.4 million adults in 2030²³ (Figure 1). By 2030, more than 21 million children and adolescents aged five to 19 years old will be living with obesity in Southeast Asia²⁴.



Region	1990 (%)	2013 (%)	% Change
Central Asia	42.32	49.25	6.93
East Asia	25.14	33.06	7.92
South Asia	23.62	28.85	5.23
Southeast Asia	18.98	26.30	7.32
The Pacific	55.57	60.60	5.03

Table 1: The prevalence of obesity globally²⁵

*Countries in Southeast Asia refer to Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

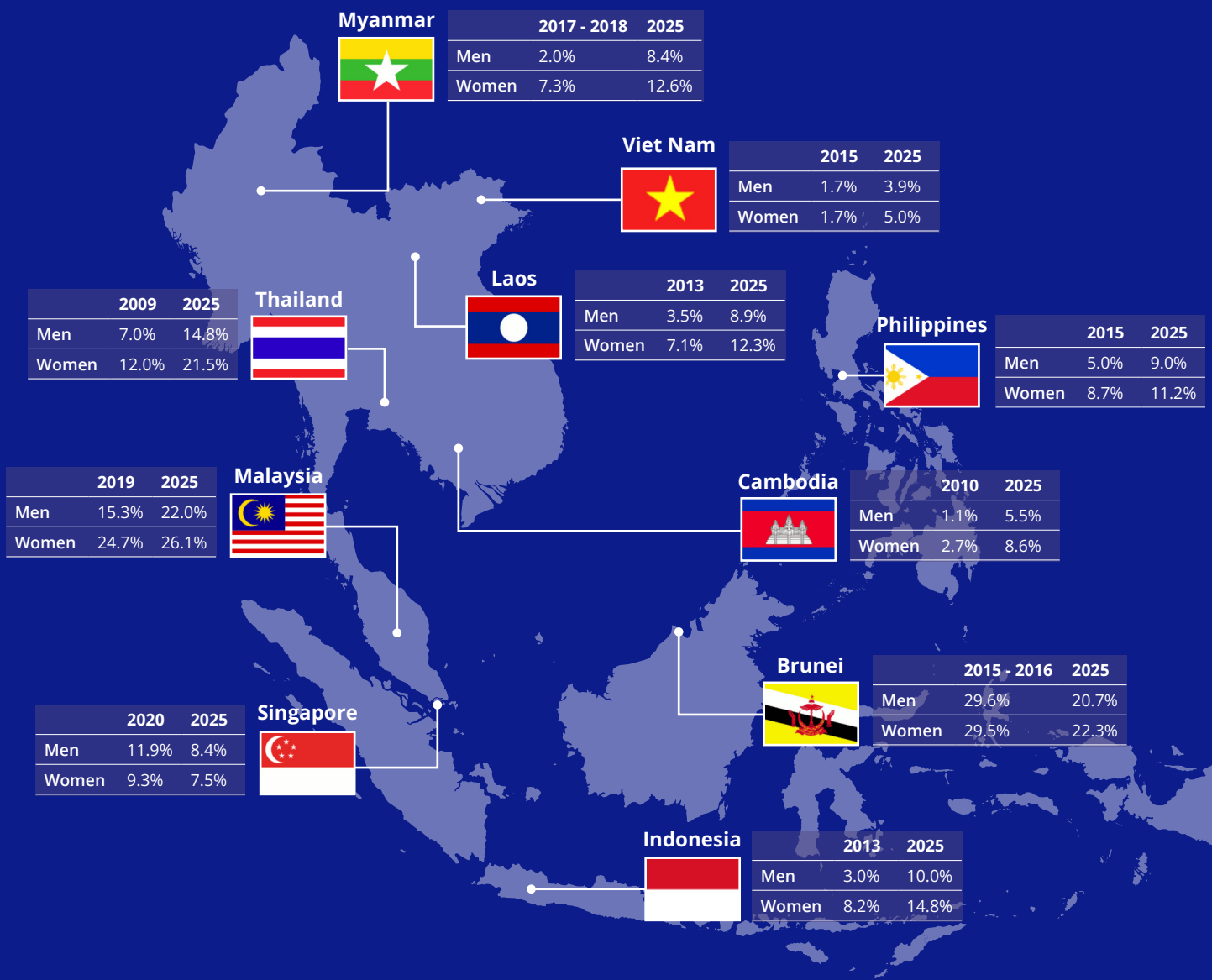


Figure 1: The projected prevalence of obesity in Southeast Asia in 2025²⁶

Several countries in the Association of Southeast Asian Nations (ASEAN), including Indonesia, Lao People’s Democratic Republic, Thailand and Viet Nam, are amongst those with the most rapid increase in obesity rates from 1995 to 2016^{27,†}.

The World Obesity Federation further revealed that countries such as Cambodia, Lao People’s Democratic Republic and Myanmar scored poorly in the global preparedness ranking to tackle the rising challenges of obesity and its associated complications²⁸.

In 2013, in response to the 2011 United Nations High Level Political Declaration on the Prevention and Control of Non-communicable Diseases (NCDs), the WHO set out a target to halt the rise of obesity at 2010 levels by 2025²⁹. However, the alarming increase in obesity prevalence suggest that many countries will have less than 10% chance of meeting this target³⁰.

A failure to commit to action on obesity also jeopardises the achievement of other Sustainable Development Goals (SDG) targets, specifically on NCDs (3.4), Universal Health Coverage (UHC) (3.8) and malnutrition (2).

† The Member States of ASEAN refer to Brunei Darussalam, Cambodia, Indonesia, Lao People’s Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

The Science Of Obesity

Obesity is a chronic disease centred in the brain and caused by the interaction of multiple factors, including biological, genetic, psychological, social and environmental.

The brain influences energy balance, appetite, eating behaviour and weight regulation on a subconscious level. However, dysregulation in the brain due to biological and environmental factors can lead to increased food intake to achieve the same level of satiation as people without obesity who require less food intake^{31,32}. During weight gain, the body further

defends itself against weight loss by increasing desire for high-calorie food, reducing feelings of satiety and decreasing resting metabolic rate (calories burned when at rest)³³.

Even if weight loss is successful, these hormonal changes may persist for at least one year after, which makes the maintenance of weight loss difficult to achieve. A study found that of 81% of individuals who made at least a serious attempt at weight loss, only 11% had maintained a 5% loss for more than a year³⁴.

A greater elucidation of the biological factors that control food intake, as well as the dynamic food environment and behaviours that contribute to obesity is needed to inform more effective strategies to manage obesity.



The Health Complications Of Obesity



Globally, in 2019, an estimated 5 million or 12% of all NCDs-related deaths are attributed to obesity alone, with more than half being categorised as premature³⁵. In 2017, there were approximately 395,000 deaths from obesity-related complications amongst ASEAN

Member States (AMS)³⁶. Obesity has also been linked to and are important drivers of more than 200 other diseases and morbidity, including diabetes, cardiovascular diseases, cancers, stroke and musculoskeletal disorders (Figure 2)^{37,38}.

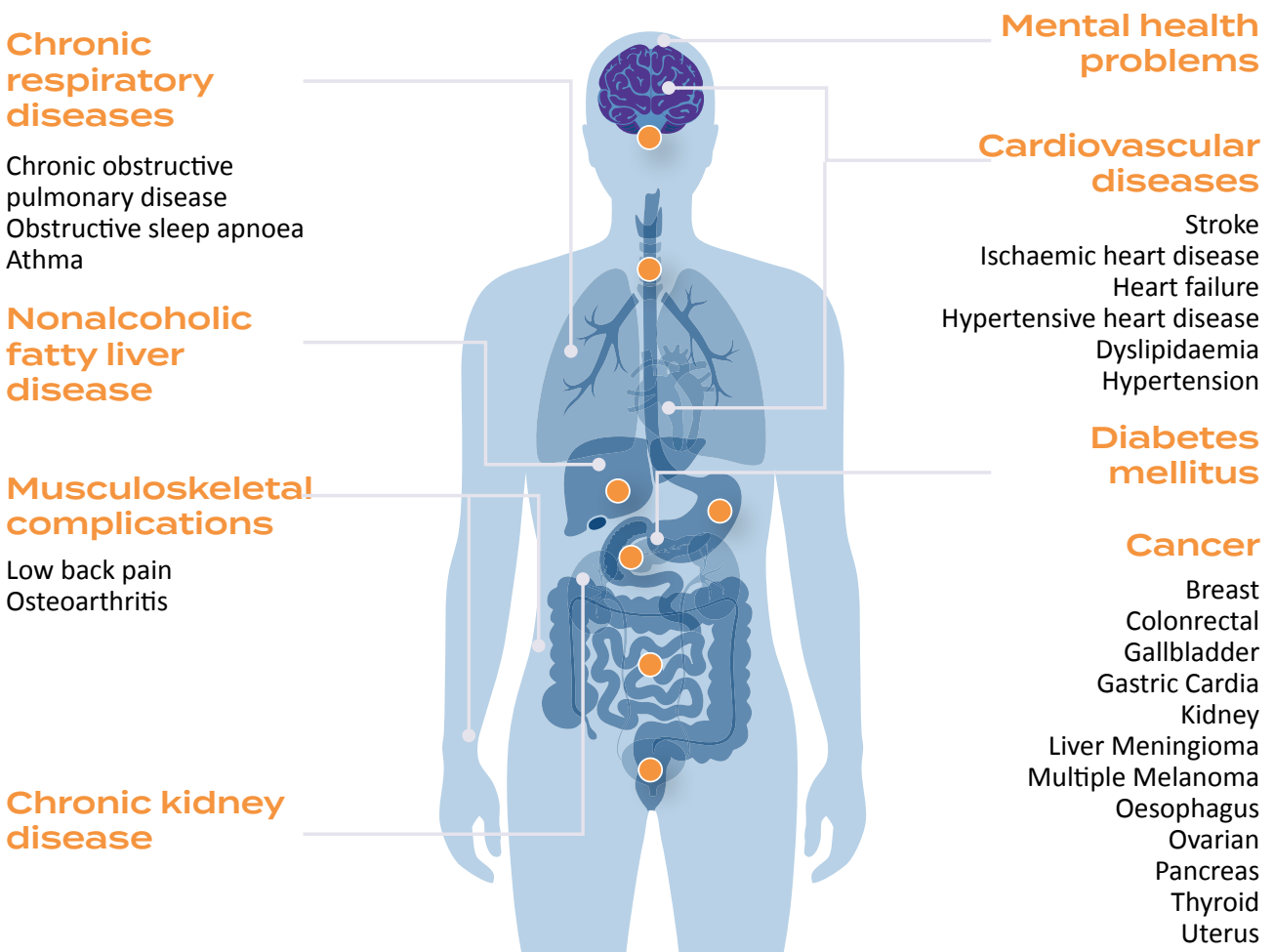
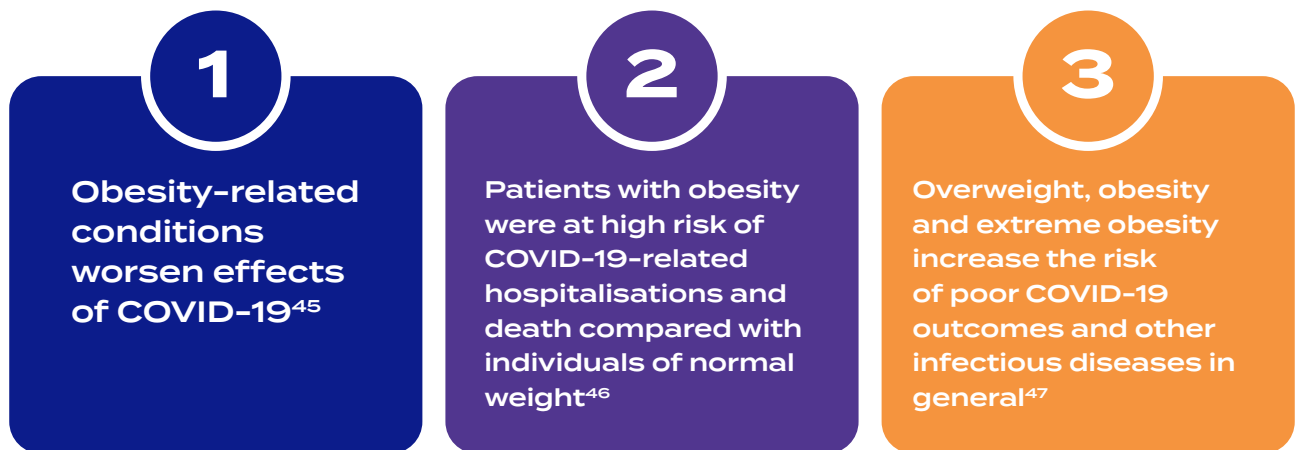


Figure 2: The medical conditions associated with obesity³⁹

The pandemic has also spotlighted that obesity is an independent risk factor of worse outcomes for COVID-19⁴⁰. One of the reasons is because obesity tends to weaken the immune system of patients, thus making individuals more susceptible to infectious diseases and serious health complications following infections, such as chronic inflammation and blood that is prone to clotting⁴¹. Individuals living with obesity are also more likely to have comorbidities of other chronic diseases, including heart diseases and diabetes, which are also risk factors

for developing more severe symptoms of COVID-19⁴².

A meta-analysis showed that people with increased body weight were 113% more likely than people of normal body-mass index (BMI) to be hospitalised, 74% more likely to be admitted to an intensive care unit (ICU) and 48% more likely to die⁴³. Patients with obesity and existing NCDs were therefore categorised as “individuals with higher risks of vulnerabilities”⁴⁴.



The strong relationship between obesity and worse COVID-19 complications demonstrates that efforts should be strengthened to prevent, treat and manage obesity, to protect the health of this vulnerable population in future pandemics.

Treating obesity also shows improved health outcomes for other diseases, due to shared

pathophysiological mechanisms. For example, for people living with both obesity and Type 2 diabetes, a sustained loss of 15% or more of bodyweight has positive effects not attainable by other glucose-lowering, including remission, improved metabolic status and in the long-term, reduces the risk of complications from cardiovascular events.⁴⁸

The Economic Consequences Of Obesity

Obesity has far-reaching impacts beyond health complications. There are direct and indirect economic costs (Figure 3). Direct costs include all costs that are incurred for treating obesity-related illnesses, including doctors' fees,

medications and transport to visit healthcare centres. Indirect costs capture the economic loss due to lower productivity or lesser quality of life due to obesity, such as disability or absenteeism in work⁴⁹.

The 2019 economic impact of overweight and obesity

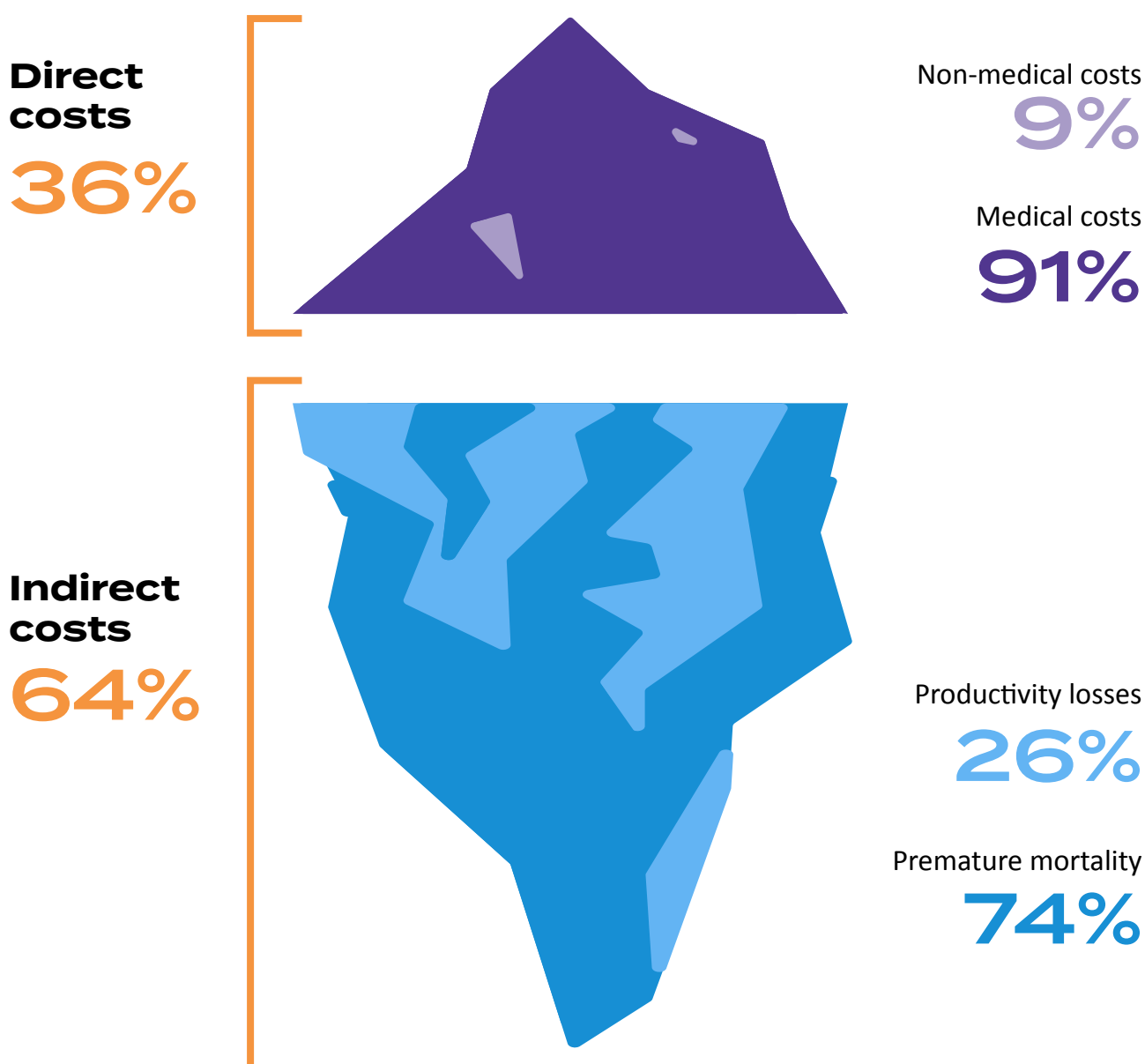


Figure 3: The economic impact of overweight and obesity in 2019⁵⁰

A study conducted by RTI International and the World Obesity Federation (WOF) on eight countries (Australia, Brazil, India, Mexico, Saudi Arabia, Spain, South Africa and Thailand) estimated that the economic impact of obesity is between 0.8% and 2.4% of annual national GDP⁵¹. If urgent action is not taken to tackle the rising impact of obesity, the economic impact

could increase to 4.8% of annual national GDP by 2060.

In Southeast Asia, with Thailand as the country selected for the study, the cost inflicted by obesity and overweight totalled US\$7 billion (1.27% of GDP) in 2019. By 2060, this number will more than double, amounting to US\$93 billion (4.88% of Thailand's GDP) (Figure 4)⁵².

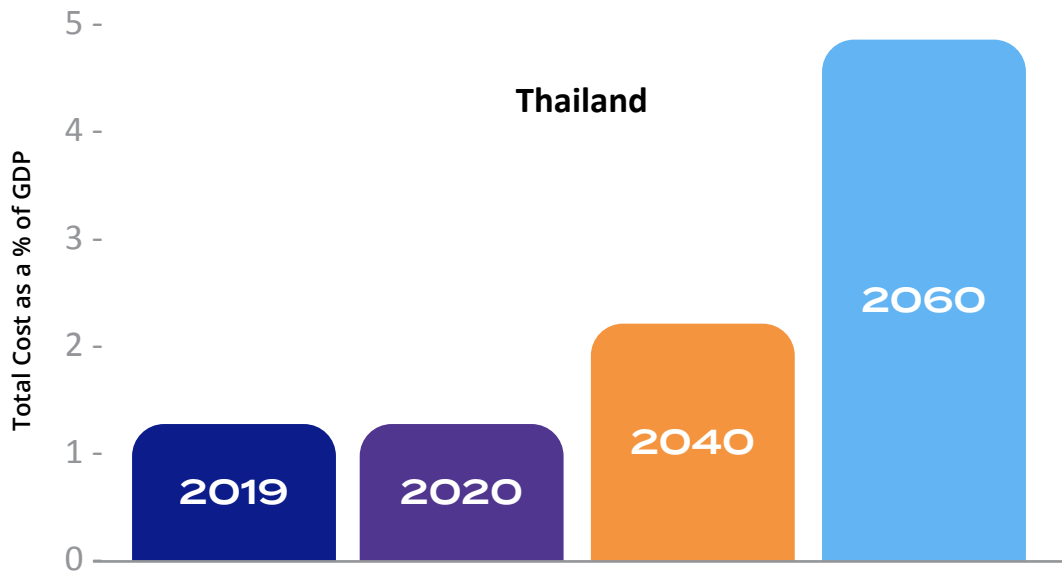


Figure 4: The projected cost of obesity in Thailand⁵³

In 2018, the Asian Development Bank Institute estimated that the direct and indirect costs of overweight and obesity in Southeast Asia are \$7.5 billion (7.7% of total healthcare expenditure and 0.3% of GDP) and \$3.8 billion (5.1% of total healthcare expenditure and 0.2% of GDP), respectively⁵⁴.

Among countries within ASEAN, all except Viet Nam had significantly higher indirect costs related to obesity and overweight, which showcases the widespread socioeconomic impact obesity has outside of the healthcare system (Table 2).

Country	Estimated direct costs % of health care expenditure	Estimated indirect costs % of health care expenditure
Brunei	2.2	5.5
Cambodia	1.1	2.0
Indonesia	1.5	10.4
Lao PDR	1.1	8.1
Malaysia	2.0	4.9
Myanmar	1.3	9.0
Philippines	1.4	4.6
Singapore	1.5	1.6
Thailand	1.7	3.3
Viet Nam	1.1	0.9

Table 2: The direct and indirect costs of obesity in ASEAN⁵⁵



Due to the diversity in national healthcare priorities, socioeconomic landscape and existing infrastructure and capacity across the AMS, obesity management and care and its prioritisation are also varied. Understanding the economic impact of obesity in ASEAN and highlighting the links between obesity and other health issues provide a cost-benefit analysis to understand the urgency of early obesity interventions.

The rising cost associated with obesity is universal and not only unique to the ASEAN region.

By reversing the tide and slowing the increase in overweight and obesity by 5% from the current projected levels, it can result in annual savings of 5.2% between 2020 to 2060⁵⁶.

Addressing obesity upfront means minimising costly downstream savings to the healthcare system in the long-term through reduced metabolic and other comorbidity complications and the risk of relapse. Consequently, healthcare resources can be optimised and directed towards other pressing priorities. This is especially important as AMS are striving to achieve universal health coverage for its population.

The Unseen Cost of Obesity

Often overlooked, misconceptions of obesity and weight stigma are prevalent in the media and popular culture, which includes representation of people living with obesity as unmotivated and unhealthy. Weight stigma refers to the discriminatory acts and ideologies targeted towards individuals because of their weight and size and is a harmful manifestation of social inequity⁵⁷.

This stems from the belief that obesity is due to poor lifestyle choices or the lack of self-discipline and motivation, which reinforces the negative view that obesity is the personal responsibility of people living with obesity and

their families. This is worsened by the media, education, workplace environments, personal relationships and healthcare settings that further shapes and reinforces these inherent but inaccurate beliefs that the masses have been socialised to adopt.

A survey of more than 14,000 people with obesity found that 81% agreed that losing weight was their sole responsibility⁵⁸. They either delay or do not seek medical care due to concerns on how their weight will be perceived and the internalised belief that the disease was self-inflicted. On average, six years are passed from the initial identification of weight gain symptoms before discussion with a healthcare professional, which increases the risk of developing complex complications and morbidities from obesity.

People with obesity who had consultations with healthcare professionals reported experiencing stigma. The same survey of more than 2,700 healthcare professionals also suggested that healthcare professionals often consider weight as the cause of other chronic conditions and do not consider other possible causes⁵⁹. Consequently, only less than 40% of people have received a formal diagnosis and less than 20 are receiving evidence-based treatment⁶⁰.

Consequently, it affects all aspects of an individual's lives, including relationships, employment, education and snowballs into systemic issues, such as deterring people from seeking the necessary medical care and healthcare professionals being less likely to diagnose obesity.



1

Misunderstanding about the drivers of obesity

Misunderstanding about the drivers of obesity is widespread. Beyond the commonly identified primary factors that contribute to the prevalence of obesity – one’s diet and the lack of physical activities – lies the failure to recognise that obesity is driven by a complex mix of genetics, psychology, mental health, the environment, socioeconomic factors and commercial drivers⁶¹.

2

Correlating obesity with an individual failure, rather than a collective societal problem

Obesity is socialised to be understood as an individual failure and as such, responsibility should fall on the individual themselves⁶². This has resulted in the rise of weight bias – negative ideologies associated with obesity which are then imposed on people living with obesity and overweight in the form of weight stigma.

3

Obesity is not just a physical health problem. If weight stigma remains unaddressed, it may lead to other forms of emotional or mental hurt for people living with obesity

Individuals with obesity are more likely to experience depression, low self-esteem and anxiety, which potentially impacts their social relationships and behaviour. For example, people living with obesity avoid seeking medical help which prohibits progress in obesity prevention and treatment strategies. Further, weight stigma or “sizeism” can also lead to suffering and psychological distress that can “increase one’s vulnerability to depression and eating disorders”⁶⁴.

As the World Obesity Federation highlights, there is a positive correlation between weight stigma and a variety of disordered eating patterns such as binge eating, emotional eating, restrictive eating, and eating anxiety. It also raises stress hormone levels of individuals which, in severe cases, is directly associated with an individual’s suicidal ideations and acts⁶⁵.

4

A neglect by society

Moreover, this perpetuates myopic policy-driven efforts that solely focuses on prevention – policies that should be in fact meaningful, comprehensive, non-stigmatising, sustainable and multi-faceted in addressing the various drivers of obesity.

5

A collective solution to a societal problem

A change in the trajectory of healthcare policy driven efforts, programmes and services would see the incorporation of the rights of people living with obesity with human rights legislation, workplace discrimination legislation, healthcare systems and education⁶⁶. As such, discourse around obesity and overweight will have to evolve to reduce weight stigma.

Tackling Obesity & Overweight: An ASEAN Priority

At a global level, during the 75th World Health Assembly in May 2022, delegates approved a record number of recommendations on NCDs, including actions to be taken by governments, whole-of-society and the WHO Secretariat to prevent and manage obesity over the life course.^{67,68} To complement efforts to implement the recommendations by Member States at a country-level, an acceleration plan was outlined, which focuses on a data-driven incremental strategy and multi-sectorial collaboration.⁶⁹

In particular, the current draft:

- Recognises obesity as a complex multifactorial disease
- Acknowledges the stigma and bias experienced by people living with obesity in different geographies and cultures
- Recognises the need to prevent and manage obesity throughout the life-course
- Makes recommendations for improving the training of healthcare providers (HCPs) in obesity management
- Makes recommendations for obesity to be included in universal health coverage (UHC) packages, and managed through multidisciplinary teams
- Highlights the importance of regulating food environments through taxation and incentive

The recommendations by the WHO are essential first steps towards a global comprehensive action on obesity. As well as endorsing the recommendations, AMS should reference and adopt them into a set of national action plans on obesity that covers its prevention and management throughout the life-course, in childhood, adolescent and adulthood.

At a regional level, obesity is also an area of focus for ASEAN.

As part of ASEAN’s grand vision to promote a healthy, caring and sustainable ASEAN community, the ASEAN Post-2015 Health Development Agenda (APHDA) established four health clusters, so populations in the region can “achieve maximal health potential through healthy lifestyle... (and) live in a healthy environment with sustainable inclusive development where health is incorporated in all policies.”⁷⁰

Within the Agenda, AMS identified health priorities and work programmes to ultimately support Sustainable Development Goals.

Health Cluster 1 on ‘Promoting Healthy Lifestyle’ aims to “achieve maximal health potential of ASEAN community through promoting healthy lifestyle” and “ensure healthy lives and promote wellbeing for all at all ages” through the prevention and control of NCDs.

Beyond economic savings and reducing stigma faced by individuals living with obesity, overcoming the obesity and overweight pandemic will bring the ASEAN region one step closer to achieving the Health Cluster goals (Figure 5).

Sustainable Development Goals (SDGs)

3 Good Health & Well-Being



ASEAN Socio-Cultural Community Blueprint 2025

- A. Engages & Benefits People
- B. Inclusive
- C. Sustainable
- D. Resilient
- E. Dynamic



ASEAN Post-2015 Health Development Agenda

A Healthy, Caring and Sustainable ASEAN Community



Health Cluster 1	Health Cluster 2	Health Cluster 3	Health Cluster 4
<p>Promoting Healthy Lifestyle</p> <ol style="list-style-type: none">To achieve health potential of ASEAN Community through promoting healthy lifestyleTo ensure healthy lives and promote well-being for all at all ages	<p>Responding to all hazards and emerging threats</p> <ol style="list-style-type: none">To promote resilient health system in response to communicable diseases, emerging infectious diseases, and neglected tropical diseasesTo respond to environmental health threats, hazards, disasters, and to ensure effective preparedness for disaster health management in the region	<p>Strengthening health system and gaining access to care</p> <ol style="list-style-type: none">ASEAN Community has universal access to essential health care, safe and good quality medical products including traditional and complementary medicinesTo achieve the unfinished health-related MDGs, in light of the SDG	<p>Ensuring Food Safety</p> <ol style="list-style-type: none">To promote access to safe food, safe drinking water and sanitation



Battling Obesity & Overweight

- Health Clusters where battling obesity will aid to advance goals
- Intended to achieve

Figure 5: Addressing obesity through the ASEAN Health Cluster Goals

Apart from achieving the health cluster goals, ASEAN member states have also declared their commitment to curb the rise of obesity within the region:

**2013 Bandar
Seri Begawan
Declaration⁷²**

AMS have collectively raised their concerns and acknowledged that obesity and overweight are intermediate risk factors that leads to an increased mortality and disability rate in the 2013 Bandar Seri Begawan Declaration. Within the Declaration, AMS agreed to commit resources to expand their efforts to “strengthen the capacity of health systems ... to improve early management of noncommunicable diseases as well as prevent and manage complications.”

**38th ASEAN
Summit in
2017⁷³**

AMS noted that obesity and overweight were a prevalent problem across ASEAN that must be addressed to prevent the case of the “the double impact of malnutrition” from rising⁷⁴.

**2021 Bandar
Seri Begawan
Declaration⁷⁵**

AMS declared commitment to prioritise the importance of achieving a balanced diet to create “a community that is healthy, caring, sustainable and productive”⁷⁵. Through encouraging the consumption of healthier food and beverage choices, it is hoped that AMS can mitigate the rise of individuals with NCDs, including obesity.



The Preventive Angle: Current ASEAN Good Practices

AMS have adopted measures from the preventive angle to curb the rise of obesity, by rolling out public health campaigns to educate on the importance of healthy diet and regular exercises, as well as disincentivising the

consumption of unhealthy food and beverages through taxations (Table 3). These are encouraging measures undertaken to instigate a positive behavioural and lifestyle changes.

Country	Measures
Brunei	Health Ministry launched a food advertising guideline in 2021 to tackle rising childhood obesity ⁷⁷ <ol style="list-style-type: none"> 1. Banning of food and beverage commercials during certain hours 2. Marketing on food high in sugar should not claim to be “low fat” or “fat free” 3. Child actors prohibited from promoting food that undermines a healthy diet
Malaysia	Sugar tax imposed on sugar beverages to make unhealthy options less accessible for the population. ^{78,79}
Singapore	New nutrition labelling scheme for sweet drinks to be implemented by 2022 to reduce sugar intake of population ⁸⁰ . In 2016, the National Steps Challenge was introduced to encourage individuals to adopt physically active behaviours for their health.
Thailand	Introduction of health campaigns such as “Sweet Enough Network” and “Thai People with no Big Belly” ⁸¹ .
Viet Nam	National Nutrition Strategy (NNS) was introduced in 2022 that sets out the goals and objectives of the country to reduce the prevalence of overweight and obesity through: <ol style="list-style-type: none"> 1. Monitoring 2. Adopting best practices to control consumption such as introducing sugar-sweetened beverage tax and front-of-package labelling⁸²

Table 3: Initiatives to tackle obesity in ASEAN

Understanding that obesity and overweight is a modifiable risk factor, ASEAN is in the right trajectory promoting the adoption of a healthy lifestyle and balanced diet at the forefront of its strategy. However, improving nutritional intake and increasing physical activity are measures that form only part of the solution. Studies show that lifestyle interventions, including physical exercise and healthy diet, are only effective in two out of ten people living with obesity for weight loss and maintenance in the long-term, even with intensive support. This exemplifies that additional interventions, including sustained monitoring, lifestyle counselling,

bariatric surgery and anti-obesity medications, are needed to address the complex nature of obesity⁸³.

To complete the equation, AMS also needs to develop a systemic and sustained roadmap across prevention and treatment to help individuals with obesity manage their condition. This includes changes to the environment and societal norms towards how obesity is viewed, as well as broader obesity management strategies by whole-of-society.

Scaling Up: Strengthening Existing Healthcare Systems

In conjunction with World Obesity Day 2020, the World Obesity Federation developed the ROOTS framework, which “sets out an integrated, equitable, comprehensive and person-centred approach to addressing obesity” by addressing the many drivers (and roots) of

obesity (Table 4)⁸⁴. The ROOTS framework addresses the whole-spectrum of patient pathway, from pre-diagnosis to treatment and monitoring to create a holistic vision to prevent the diagnosis of obesity as well as improve care for those already diagnosed with obesity.

Recognise officially that obesity is a chronic, multifactorial disease as well as a driver of other diseases, with serious implications for individuals, families, societies and economies.

Obesity monitoring and surveillance, and innovative research into the causes and effective strategies for preventing and treating obesity, must be vigorously promoted and supported.

Obesity prevention strategies must be developed, tested and implemented across the life course, from pre-conception, through childhood, and into older age.

Treatment of obesity, using evidence-based, dignified, non-stigmatising and person-centred approaches—including behavioural, pharmacological, digital, nutritional, physical-activity-based and surgical interventions—should be accessible to all people with obesity.

Systems-based approaches should be applied to the management of obesity, aimed at strengthening health systems, enabling obesity’s incorporation into primary and secondary care and addressing the environmental, social and commercial roots of obesity (including health, food, transport, water and sanitation, education and economy).

Table 4: ROOTS framework by the World Obesity Federation

In addition to preventive efforts to encourage healthy living, an area of prioritisation for the ASEAN region is the strengthening of healthcare systems, so it is conducive to assist patients already diagnosed with obesity to manage their condition. Two inefficiencies that are common across healthcare systems in ASEAN that need to be addressed:

1. Inadequate facilities in primary-care networks. Low diagnosis of obesity and lack of basic health services in rural areas in all countries, except for Singapore and Brunei,

which aggravates the situation of obesity and overweight.

2. Lack of training of healthcare professionals in obesity. Many healthcare professionals lack the appropriate training to diagnose and manage obesity and do not understand its pathophysiology. Consequently, they are often ill-equipped to effectively communicate with patients and resort to treating other complications related to obesity.

Indonesia, for example, have successfully implemented two programmes to manage obesity by partnering with non-government stakeholders.

From a health system perspective, the partnerships with private stakeholders (Table 5) provided opportunities for countries like Indonesia to strengthen its existing healthcare systems. By training the healthcare workforce and curating management programmes, AMS can complement the existing preventive measures and provide a more holistic roadmap to effective obesity strategies for people living with obesity.

In a region as diverse and dispersed as ASEAN, improving the healthcare system to support the effective management of obesity would require a consortium of public and private players, namely the strong collaboration between governments, clinics at the primary care level, hospitals, pharmaceutical companies, medical-device companies and research institutions.

Programme and stakeholder	Details	Opportunities to further integrate effective obesity management initiatives in healthcare systems
Posbindu Program ⁸⁵ <i>Ministry of Health, Indonesia</i>	Free screening conducted by the Ministry of Health, which included: <ol style="list-style-type: none"> 1. Measuring height and weight 2. Identifying the risk factors for NCDs 3. Measuring blood pressure, blood sugar level, and cholesterol 4. Testing visual acuity and hearing 5. Providing health counselling for patients based on their results 	<ol style="list-style-type: none"> 1. Mobile health vans can set up kiosks in rural areas that have computers, from which medical information can be obtained to monitor patients' condition 2. Individuals who are screened and are with signs of obesity can be referred to clinics and counselled to ensure adherence to treatment
Train the Trainer (2012) ⁸⁶ <ul style="list-style-type: none"> • <i>Indonesian Society for Endocrinology (Perkeni)</i> • <i>Indonesia Diabetes Association (Persadia)</i> • <i>Sanofi</i> • <i>Novo Nordisk</i> • <i>World Diabetes Foundation</i> 	In 2012, the Ministry of Health and the Indonesian Society for Endocrinology partnered with pharmaceutical companies like Novo Nordisk and Sanofi to carry out training programs for physicians and healthcare professionals to offer patient advice on basic issues, such as healthy lifestyles and diet	Indonesia could build on the training investment and initiatives to further empower healthcare professionals
Ramadan, Diabetes, and Me (2013) ⁸⁷ <i>MSD Pharmaceuticals</i>	A mobile application was launched to help people manage their diabetes condition. The app provides advice to diabetes patients who want to fast during Ramadan by: <ol style="list-style-type: none"> 1. Reminding them to control blood-glucose levels during fasting (to avoid hypoglycemia) 2. Offering a blood-glucose-tracking feature MSD also printed patient-information booklets and distributed them to pharmacies to provide facts on fasting during Ramadan, further facilitating communication between healthcare professionals and patients	<p>The government could replicate and encourage healthcare-technology companies to build technology-enabled decision-support tools to help physicians better diagnose and treat other conditions related to diabetes, such as obesity.</p> <p>Such tools could be built in collaboration with the Perkeni (Indonesian Society for Endocrinology) and the Persadia (Indonesian Diabetes Association)</p>

Table 5: Examples of public-private partnerships to curb obesity

Key Recommendations for ASEAN

ASEAN have acknowledged, through their declarations and policies devised by individual AMS, that there is an urgent need to address the obesity pandemic. While the preventive measures are a step in the right direction, its effectiveness is yet to be felt, as the prevalence of obesity continues to increase. There is therefore a need to relook at existing strategies and consider the implementation of

the following measures concurrently to ensure that individuals living with obesity and who are overweight now, get the help they need to manage their condition.

We have identified several case studies globally, of varying successes and gaps in the effective management and prioritisation of obesity on the national health agenda as learnings for the ASEAN region (Table 6).

Country	Measures
Canada	In 2020, Obesity Canada released the Canadian Adult Clinical Practice Guidelines, the first update from 2006 ⁸⁸ . In development, more than 60 healthcare professionals, researchers and people with obesity extensively reviewed available published evidence to identify 80 key recommendations. In particular, the guideline redefines obesity as “a prevalent, complex, progressive and relapsing chronic disease, characterised by abnormal or excessive body fat (adiposity) that impairs health”. This definition changes the focus from a person’s BMI to how their weight impacts their health, changing the outcome focus from weight loss to patient-centred health outcomes ⁸⁹ . The comprehensive guidelines have attracted international attention and both Chile and Ireland are considering developing their guidelines in reference to this.
Germany	In 2020, the Parliament voted to recognise obesity as a chronic disease. On a national level, the National Reduction and Innovation Strategy for Sugar, Fats and Salt introduced in 2019 aims to promote healthy diets through regulating convenience food and the food sector has committed to achieving specific reduction targets by 2025 ⁹⁰ . However, as most initiatives exist at a regional and local level, a concerted effort at a national level needs to be strengthened to device a cohesive approach to address obesity.
India	National campaigns aimed at influencing lifestyle and behaviour change, such as Fit India and Eat Right, have been launched to address obesity. The 2017-2022 National Multisectoral Action Plan for Prevention and Control of common NCDs (NMAP) describes obesity as a risk factor for NCDs, noting behavioural and environmental risk factors such as unhealthy diet and inactivity as causes of overweight and obesity and aims to halt the rise in prevalence by 2025 ⁹¹ . However, no specific targets have been set yet. Obesity is currently low on the national priority as most policies are focused on diseases common in rural areas, undernutrition and infectious diseases. Obesity is not yet recognised as a chronic disease and is grouped within the nutrition policy agenda, thus making funding limited.



Table 6: Global best practices of obesity policy implementation

In addition, the EU-ASEAN Business Council has expanded on the 'ROOTS' framework and incorporated steps needed to be taken

by multi-sectorial stakeholders in the ASEAN region (Table 7)^{92,93}.

Framework	Core actions for governments	Core actions for private sector, civil society, healthcare professionals and individuals
<p>Recognise officially that obesity is a chronic, multifactorial disease as well as a driver of other diseases, with serious implications for individuals, families, societies and economies.</p>	<ul style="list-style-type: none"> • Include obesity prevention, treatment and management within UHC packages • Build gender equality into all obesity policymaking • Incorporate the rights of people with obesity within human rights legislation, workplace regulations, healthcare systems and education, and ensure that legislative tools are used effectively to tackle pervasive and unacceptable stigma, discrimination and bullying • Educate, encourage and empower city-level officials to recognise obesity as a chronic disease and to develop locally appropriate guidelines for obesity prevention and treatment 	<ul style="list-style-type: none"> • Develop targeted communications plan to highlight the importance of whole-of-society and life-course approach to obesity, especially for high-risk and marginalised groups and with the use of appropriate communication channels, such as social media platforms • Use appropriate imagery and people-first language when depicting people living with obesity to prevent dehumanising them • Improve health literacy on the many drivers of obesity in education and healthcare systems • Ensure the education of obesity and overweight begins early as part of antenatal care, in the pregnancy stages to prospective parents
<p>Obesity monitoring and surveillance, and innovative research into the causes and effective strategies for preventing and treating obesity, must be vigorously promoted and supported.</p>	<ul style="list-style-type: none"> • Fund and act upon surveillance and research into the effects of commercial determinants on obesity, such as marketing of food and drinks, and long-term epidemiology trends in obesity among high-risk populations, among others • Ensure annual screening and monitoring is started early in school, such as medical questionnaires on height and weight and lifestyle behaviours • Store patient data in a central depository for easy access between different multidisciplinary teams • Provide technical assistance and share knowledge in evaluation of obesity to other contexts (e.g., evaluation of national action plans) • Establish knowledge sharing mechanisms between different countries on the effectiveness of national prevention and management strategies for learnings and adaptation 	<ul style="list-style-type: none"> • Monitor policies and practices and hold parties accountable for their actions or inactions to promote healthier environments and reduce the prevalence of obesity
<p>Obesity prevention strategies must be developed, tested and implemented across the life course, from pre-conception, through childhood, and into older age.</p>	<ul style="list-style-type: none"> • Ensure that publicly funded health literacy programmes include obesity prevention and target all generations • Support and incentivise workplace interventions on prevention of obesity and, where applicable, treatment and management • Protect and promote access to green spaces in urban areas, including community gardens, orchards and parks 	<ul style="list-style-type: none"> • Promote healthy behaviours for children and adolescents in homes and other settings, including schools and community organisations

Framework	Core actions for governments	Core actions for private sector, civil society, healthcare professionals and individuals
<p>Treatment of obesity, using evidence-based, dignified, non-stigmatising and person-centred approaches—including behavioural, pharmacological, digital, nutritional, physical-activity-based and surgical interventions—should be accessible to all people with obesity.</p>	<ul style="list-style-type: none"> • Ensure that weight-management services are equitably offered and progressively realised for people of all ages, including as part of UHC packages • Upgrade healthcare infrastructure to support the diagnosis of obesity and ensure that multidisciplinary teams are accessible to people living with obesity • Ensure clinics at the primary care level have effective referral systems to multidisciplinary teams, including dietitians, nutritionists and counselling psychologists, to provide a holistic care package • The providence of telemedicine and mobile healthcare services to reach individuals in rural and hard-to-reach areas 	<ul style="list-style-type: none"> • Expand training for health care professionals on obesity, including mandating education on obesity prevention and treatment in medical school curricula • Demand that health care professionals communicate about obesity using people-first language and in a non-stigmatising way
<p>Systems-based approaches should be applied to the management of obesity, aimed at strengthening health systems, enabling obesity's incorporation into primary and secondary care and addressing the environmental, social and commercial roots of obesity (including health, food, transport, water and sanitation, education and economy).</p>	<ul style="list-style-type: none"> • Incentivise nutrition policies that foster a farm-to-plate food system that is affordable, healthy and sustainable for people and planet – for example, through the use of subsidies • Reorient agricultural and other fiscal policies related to food systems to support better nutrition and environmental outcomes, through subsidies, taxes, import tariffs and quotas • Provide platforms for collaboration in addressing obesity across diverse stakeholder groups, including people living with obesity, health care professionals, non-governmental organisation, local government, the private sector (as appropriate), academia etc. • Establish healthy living through taxation on tobacco, alcohol or unhealthy food and beverages 	<ul style="list-style-type: none"> • Reformulate existing products with healthier nutrient compositions, particularly through the reduction of sugar, salt and unhealthy fat • Ensure food labelling and packaging are accurate and meet high standards

Table 7: A regional action plan for ASEAN to address obesity, based on the 'ROOTS' framework



About the EU-ASEAN Business Council

The EU-ASEAN Business Council (EU-ABC) is the primary voice for European business within the ASEAN region. It is formally recognised by the European Commission and accredited under Annex 2 of the ASEAN Charter as an entity associated with ASEAN.

Independent of both bodies, the Council has been established to help promote the interests of European businesses operating within ASEAN and to advocate for changes in policies and regulations which would help promote trade and investment between Europe and the ASEAN region. As such, the Council works on a sectorial and cross-industry basis to help improve the investment and trading conditions for European businesses in the ASEAN region through influencing policy and decision makers throughout the region and in the EU, as well

as acting as a platform for the exchange of information and ideas amongst its members and regional players within the ASEAN region.

The EU-ABC conducts its activities through a series of advocacy groups focused on particular industry sectors and cross-industry issues. These groups, usually chaired by a multi-national corporation, draw on the views of the entire membership of the EU-ABC as well as the relevant committees from our European Chamber of Commerce membership, allowing the EU-ABC to reflect the views and concerns of European business in general. Groups cover, amongst other areas, Insurance, Automotive, Agri-Food & FMCG, IPR & Illicit Trade, Market Access & Non-Tariff Barriers to Trade, Customs & Trade Facilitation and Pharmaceuticals.

Executive Board

The EU-ABC is overseen by an elected Executive Board consisting of corporate leaders representing a range of important industry sectors and representatives of the European Chambers of Commerce in South East Asia.

EU-ABC Healthcare Advocacy Group

The EU-ABC's Healthcare Advocacy Group consists of: Bayer, Boehringer Ingelheim, Haleon, KPMG, Merck, Novartis, Novo Nordisk, Philips, Prudential, PwC, Reckitt, Roche, Sanofi and Zuellig Pharma.

To find out more about the benefits of Membership and how to join the EU-ABC please either visit

www.eu-asean.eu or write to info@eu-asean.eu.

Membership

The EU-ABC's membership consists of large European Multi-National Corporations and the eight European Chambers of Commerce from around South East Asia. As such, the EU-ABC represents a diverse range of European industries cutting across almost every commercial sphere from car manufacturing through to financial services and including Fast

Moving Consumer Goods and high-end electronics and communications. Our members all have a common interest in enhancing trade, commerce and investment between Europe and ASEAN.

Current Membership



References

- ¹Asian Development Bank Institute. (2017). The imminent obesity crisis in Asia and the Pacific: First cost estimates. [Online]. Available from: <https://www.adb.org/publications/imminent-obesity-crisis-asia-and-pacific-first-cost-estimates>
- ²World Obesity Federation (2022). World Obesity Atlas 2022. [Online]. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>
- ³World Health Organization. (2021). Obesity and overweight. [Online]. Available from: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- ⁴Yuen MM, Earle RL, Kadambi N, et al. (2016). A systematic review and evaluation of current evidence reveals 236 obesity-associated disorders. [Poster T-P-3166 presented at unspecified meeting].
- ⁵Ritchie H & Roser M. Obesity. Our World in Data. [Online]. Available from: <https://ourworldindata.org/obesity>
- ⁶Oliver Wyman & Singapore Health Promotion Board. (2021). The Digital Frontier of Health Promotion and Prevention. [Online]. Available from: https://www.marshmcclennan.com/content/dam/mmc-web/insights/publications/2021/may/the-digital-frontier-of-health-promotion-and-prevention_3-mar.pdf
- ⁷Helble M and Sato A (eds). (2018). Wealthy but unhealthy: Overweight and obesity in Asia and the Pacific: Trends, costs, and policies for better health. Japan (Tokyo): Asian Development Bank.
- ⁸Association of Southeast Asian Nations. (2018). ASEAN Post-2015 Health Development Agenda (2016-2020). [Online]. Available from: <https://asean.org/book/asean-post-2015-health-development-agenda-2016-2020/>
- ⁹*ibid.*, pg. 91-94.
- ¹⁰Ralston J, Cooper K & Powis J. (2021). Obesity, SDGs and ROOTS: A framework for impact. *Current Obesity Reports*. 10: 54-60.
- ¹¹World Health Organization. (2022). ICD-11 for Mortality and Morbidity Statistics. [Online]. Available from: <https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2fid%2fentity%2f149403041>
- ¹²Herrera BM & Lindgren CM. (2010). The genetics of obesity. *Current Diabetes Reports*. 10: 498-505.
- ¹³Corica D, Aversa T, Valenzise M, et al. (2018). Does family history of obesity, cardiovascular, and metabolic diseases influence onset and severity of childhood obesity? *Frontiers in Endocrinology*. 9: 187.
- ¹⁴Pampel FC, Denney JT & Krueger PM. (2012). Obesity, SES, and economic development: A test of the reversal hypothesis. *Social Science & Medicine*. 74: 1073-1081.
- ¹⁵Caterson ID, Alfadda AA, Auerbach P, et al. (2019). Gaps to bridge: Misalignment between perception, reality and actions in obesity. *Diabetes, Obesity and Metabolism*. 21(8): 1914-1924.
- ¹⁶World Health Organization. (1999). Obesity: Preventing and Managing the Global Epidemic. WHO Technical Report Series 894, Geneva: World Health Organization.
- ¹⁷NCD Risk Factor Collaboration (NCD-RisC). (2017). Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: A pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults. *Lancet*. 390: 2627-2642.
- ¹⁸Roberto CA, Swinburn B, Hawkes C, et al. (2015). Patchy progress on obesity prevention: Emerging examples, entrenched barriers, and new thinking. *Lancet*. 385(9985): 2400-2409.
- ¹⁹NCD Risk Factor Collaboration (NCD-RisC). (2017). Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: A pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults. *Lancet*. 390: 2627-2642.
- ²⁰Popkin BM, Corvalan C & Grummer-Strawn LM. (2019). Dynamics of the double burden of malnutrition and the changing nutrition reality. *Lancet: Double Burden of Malnutrition*. 395(10217): 65-74.

References

- ²¹Asian Development Bank Institute. (2017). The imminent obesity crisis in Asia and the Pacific: First cost estimates. [Online]. Available from: <https://www.adb.org/publications/imminent-obesity-crisis-asia-and-pacific-first-cost-estimates>
- ²²World Obesity Federation. (2022). Global Obesity Observatory. Prevalence of adult overweight & obesity (%). [Online]. Available from: <https://data.worldobesity.org/tables/prevalence-of-adult-overweight-obesity-2/>
- ²³World Obesity Federation (2022). World Obesity Atlas 2022. [Online]. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>
- ²⁴Ibid.
- ²⁵Asian Development Bank Institute. (2017). The imminent obesity crisis in Asia and the Pacific: First cost estimates. [Online]. Available from: <https://www.adb.org/publications/imminent-obesity-crisis-asia-and-pacific-first-cost-estimates>
- ²⁶World Obesity Federation. (2022). Global Obesity Observatory. Prevalence of adult overweight & obesity (%). [Online]. Available from: <https://data.worldobesity.org/tables/prevalence-of-adult-overweight-obesity-2/>
- ²⁷NCD Risk Factor Collaboration (NCD-RisC). (2017). Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: A pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults. *Lancet*. 390: 2627-2642.
- ²⁸World Obesity Federation (2022). World Obesity Atlas 2022. [Online]. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>
- ²⁹World Health Assembly. (2013) Follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. Paper WHA66.10, adopted 27 May 2013. Available at: http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R10-en.pdf
- ³⁰World Obesity Federation. (2020). Obesity: missing the 2025 global targets: Trends, costs and country reports. London: World Obesity Federation.
- ³¹Hall KD, Farooqi IS, Friedman JM, et al. (2022). The energy balance model of obesity: beyond calories in, calories out. *The American Journal of Clinical Nutrition*. 115(5): 1243-1254.
- ³²Lau DCW & Wharton S. (2020). Canadian Adult Obesity Clinical Practice Guidelines: The Science of Obesity. [Online]. Available from: <https://obesitycanada.ca/guidelines/science>
- ³³Evert AB & Franz MJ. (2017). Why weight loss maintenance is difficult. *American Diabetes Association: Diabetes Spectrum*. 30(3): 153-156.
- ³⁴Caterson ID, Alfadda AA, Auerbach P, et al. (2019). Gaps to bridge: Misalignment between perception, reality and actions in obesity. *Diabetes, Obesity and Metabolism*. 21(8):1914-1924.
- ³⁵Okunogbe A, Nugent R, Spencer G, et al. (2021). Economic impacts of overweight and obesity: Current and future estimates for eight countries. *BMJ Global Health*. 6: e006351.
- ³⁶Ritchie H & Roser M. Obesity. *Our World in Data*. [Online]. Available from: <https://ourworldindata.org/obesity>
- ³⁷World Health Organization. (2021). Obesity and overweight. [Online]. Available from: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- ³⁸Yuen MM, Earle RL, Kadambi N, et al. (2016). A systematic review and evaluation of current evidence reveals 236 obesity-associated disorders. [Poster T-P-3166 presented at unspecified meeting].
- ³⁹World Health Organization: Regional Office for Europe. (2022). WHO European Obesity Report 2022. Copenhagen: WHO Regional Office for Europe. p. 17, p. 118. [Online]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/353747/9789289057738-eng.pdf>
- ⁴⁰World Obesity Federation (2022). World Obesity Atlas 2022. [Online]. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>

References

- ⁴¹Wadman M. 2020. Why COVID-19 is more deadly in people with obesity—even if they're young. *Science*. [Online]. Available from: <https://www.science.org/content/article/why-covid-19-more-deadly-people-obesity-even-if-theyre-young>
- ⁴²Ibid.
- ⁴³Popkin BM, Du S, Green WD, et al. (2020). Individuals with obesity and COVID-19: A global perspective on the epidemiology and biological relationships. *Obesity Reviews*. 21(11): e13128
- ⁴⁴Oliver Wyman & Singapore Health Promotion Board. (2021). The Digital Frontier of Health Promotion and Prevention. [Online]. Available from: https://www.marshmcclennan.com/content/dam/mmc-web/insights/publications/2021/may/the-digital-frontier-of-health-promotion-and-prevention_3-mar.pdf
- ⁴⁵World Obesity Federation. Coronavirus (COVID-19) & obesity. [Online]. Available from: <https://www.worldobesity.org/news/statement-coronavirus-covid-19-obesity>
- ⁴⁶Sawadogo W, Tsegaye M, Gizaw A & Adera T. (2022). Overweight and obesity as risk factors for COVID-19 associated hospitalisations and death: Systematic review and meta-analysis. *BMJ Nutrition, Prevention & Health*. 5(1).
- ⁴⁷Ibid.
- ⁴⁸Lingvay I, Sumithran P, Cohen RV & Roux CWL. (2022). Obesity management as a primary treatment goal for type 2 diabetes: time to reframe the conversation. *Lancet*. 399: 394-405.
- ⁴⁹OECD. (2019). *The Heavy Burden of Obesity: The Economics of Prevention*. OECD Health Policy Studies. Paris: OECD Publishing. p. 27 & p. 93.
- ⁵⁰Okunogbe A, Nugent R, Spencer G, et al. (2021). Economic impacts of overweight and obesity: Current and future estimates for eight countries. *BMJ Global Health*. 6: e006351.
- ⁵¹Ibid.
- ⁵²Ibid.
- ⁵³Ibid.
- ⁵⁴Helble M and Sato A (eds). (2018). *Wealthy but unhealthy: Overweight and obesity in Asia and the Pacific: Trends, costs, and policies for better health*. Japan (Tokyo): Asian Development Bank.
- ⁵⁵Ibid.
- ⁵⁶Okunogbe A, Nugent R, Spencer G, et al. (2021). Economic impacts of overweight and obesity: Current and future estimates for eight countries. *BMJ Global Health*. 6: e006351.
- ⁵⁷World Obesity Federation (2022). *World Obesity Atlas 2022*. [Online]. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>
- ⁵⁸Caterson ID, Alfadda AA, Auerbach P, et al. (2019). Gaps to bridge: Misalignment between perception, reality and actions in obesity. *Diabetes, Obesity and Metabolism*. 21(8): 1914-1924.
- ⁵⁹Ibid.
- ⁶⁰Rethink Obesity. (2021). *Obesity: A chronic disease*. [Online]. Available from: <https://www.rethinkobesity.global/global/en/weight-and-health/a-chronic-disease-the-health-impacts-of-obesity.html>
- ⁶¹World Obesity Federation (2022). *World Obesity Atlas 2022*. [Online]. Available from: <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>
- ⁶²International Diabetes Federation & World Obesity Federation. (2022). *Obesity and Type 2 Diabetes: A joint approach to halt the rise*. [Online]. Available from: <https://idf.org/our-activities/advocacy-awareness/resources-and-tools/173-obesity-and-type-2-diabetes-a-joint-approach-to-halt-the-rise.html>

References

- ⁶³World Obesity Federation. Weight stigma. [Online]. Available from: <https://www.worldobesity.org/what-we-do/our-policy-priorities/weight-stigma>
- ⁶⁴Liew I. (2022). Webinar tackles stigma which may lead to obese people not seeking help. The Straits Times. [Online]. Available from: <https://www.straitstimes.com/singapore/health/webinar-tackles-stigma-which-may-lead-to-obese-people-not-seeking-help>
- ⁶⁵World Obesity Federation. Weight stigma. [Online]. Available from: <https://www.worldobesity.org/what-we-do/our-policy-priorities/weight-stigma>
- ⁶⁶Ibid.
- ⁶⁷World Health Organization. (2022). Seventy-fifth World Health Assembly – Daily update: 27 May 2022. [Online]. Available from: <https://www.who.int/news/item/27-05-2022-seventy-fifth-world-health-assembly---daily-update--27-may-2022>
- ⁶⁸World Health Organization. (2021). WHO Discussion Paper: Draft recommendations for the prevention and management of obesity over the life course, including potential targets. [Online]. Available from: <https://www.who.int/publications/m/item/who-discussion-paper-draft-recommendations-for-the-prevention-and-management-of-obesity-over-the-life-course-including-potential-targets>
- ⁶⁹World Health Organization. (2022). Follow-up to the political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases. [Online]. Available from: https://apps.who.int/gb/ebwha/pdf_files/WHA75/A75_10Add6-en.pdf
- ⁷⁰Association of Southeast Asian Nations. (2017). ASEAN Post-2015 Health Development Agenda in a nutshell. [Online]. Available from <https://asean.org/wp-content/uploads/2017/02/APHDA-In-a-Nutshell.pdf>
- ⁷¹Association of Southeast Asian Nations. (2022). ASEAN Post-2015 Health Development Agenda (APHDA) 2021-2025. [Online]. Available from: https://asean.org/wp-content/uploads/2022/07/Summary_ASEAN-Post-2015-Health-Development-Agenda-2021-2025_FINAL_adopted-15th-AHMM_May-2022239.pdf
- ⁷²Association of Southeast Asian Nations. (2018). ASEAN Post-2015 Health Development Agenda (2016-2020). p.91-94. [Online]. Available from: <https://asean.org/book/asean-post-2015-health-development-agenda-2016-2020/>
- ⁷³Ibid.
- ⁷⁴Association of Southeast Asian Nations. (2017). ASEAN leaders' Declaration on Ending All Forms of Malnutrition. [Online]. Available from: https://asean.org/wp-content/uploads/2017/11/2.-ADOPTION_2017_ALD-on-Ending-All-Forms-of-Malnutrition_Endorsed-by-the-AHMM.pdf
- ⁷⁵Association of Southeast Asian Nations. (2021). ASEAN leaders' Declaration on the Reformulation and Production of Healthier Food and Beverage Options. [Online]. Available from: <https://asean2021.bn/latestnewsall/asean-leaders-declaration-on-the-reformulation-and-production-of-healthier-food-and-beverage-options>
- ⁷⁶Ibid.
- ⁷⁷Han S & Bandial A. (2021). Brunei to ban junk food ads aimed at children. The Scoop. [Online]. Available from: <https://thescoop.co/2021/03/09/brunei-to-ban-junk-food-ads-aimed-at-children/>
- ⁷⁸Rohaidi N. (2017). How Malaysia is tackling rising obesity. GovInsider. [Online]. Available from: <https://govinsider.asia/digital-gov/feisul-mustapha-ministry-of-health-malaysia-obesity-diabetes/>
- ⁷⁹Razak R. (2021). Budget 2022: Sugar tax expanded, excise duty for e-cigarette products. Malay Mail. [Online]. Available from: <https://www.malaymail.com/news/malaysia/2021/10/29/budget-2022-sugar-tax-expanded-excise-duty-for-e-cigarette-products/2016943>
- ⁸⁰Kurohi R. (2021). New nutrition labelling scheme for sweet drinks to kick in end-2022: MOH. The Straits Times. [Online]. Available from: <https://www.straitstimes.com/singapore/health/new-nutrition-labelling-scheme-for-sweet-drinks-to-kick-in-end-2022-moh>

References

- ⁸¹The Economist Intelligence Unit. (2017). Tackling obesity in ASEAN: Prevalence, impact, and guidance on interventions. [Online]. Available from: https://www.evolveasia.org/wp-content/uploads/2017/06/EIU_Tackling-Obesity-in-ASEAN_Final-Report-1.pdf
- ⁸²HealthBridge News. (2022). Vietnam introduces the new National Nutrition Strategy to combat growing obesity and non-communicable diseases. [Online]. Available from: <https://healthbridge.ca/news/vietnam-introduces-the-new-national-nutrition-strategy-to-combat-growing-obesity-and-non-communicable-diseases>
- ⁸³Lingvay I, Sumithran P, Cohen RV & Roux CWL. (2022). Obesity management as a primary treatment goal for type 2 diabetes: Time to reframe the conversation. *Lancet*. 399: 394-405.
- ⁸⁴Ralston J, Cooper K & Powis J. (2021). Obesity, SDGs and ROOTS: A framework for impact. *Current Obesity Reports*. 10: 54-60.
- ⁸⁵Fontaine T, Lembong J, Nair R & Dyckerhoff CS. (2016). Tackling Indonesia's diabetes challenge: Eight approaches from around the world. McKinsey & Company: Center for Healthcare Research and Innovation (CHRI). p. 11. [Online]. Available from: <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/tackling-indonesias-diabetes-challenge-eight-approaches-from-around-the-world>
- ⁸⁶Ibid., p. 12.
- ⁸⁷Ibid., p. 13.
- ⁸⁸Obesity Canada. Canadian Adult Obesity Clinical Practice Guidelines. [Online]. Available from: <https://obesitycanada.ca/guidelines/>
- ⁸⁹Batterham RL. (2020). Switching the focus from weight to health: Canada's adult obesity practice guideline set a new standard for obesity management. *EClinicalMedicine*. 31: 100636.
- ⁹⁰Federal Ministry of Food and Agriculture. (2021). The National Reduction and Innovation Strategy: Less sugar, fats and salt in processed foods. [Online]. Available from: <https://www.bmel.de/EN/topics/food-and-nutrition/healthy-diet/reduction-innovation-strategy-less-sugar-fat-salt.html>
- ⁹¹Ministry of Health & Family Welfare Government of India. (2017). National Multisectoral Action Plan for Prevention and Control of Common Noncommunicable Diseases (2017-2022). [Online]. Available from: https://main.mohfw.gov.in/sites/default/files/National%20Multisectoral%20Action%20Plan%20%28NMAP%29%20for%20Prevention%20and%20Control%20of%20Common%20NCDs%20%282017-22%29_1.pdf
- ⁹²Gortmaker SL, Swinburn BA, Levy D, et al. (2011). Changing the future of obesity: science, policy, and action. *Lancet*. 378:838-847.
- ⁹³World Health Organization. (2021). WHO Discussion Paper: Draft recommendations for the prevention and management of obesity over the life course, including potential targets. [Online]. Available from: <https://www.who.int/publications/m/item/who-discussion-paper-draft-recommendations-for-the-prevention-and-management-of-obesity-over-the-life-course-including-potential-targets>

