Report

Review of the national strategy for the prevention and control of obesity in South Africa (2015-2020)

Title of assignment:	Review of the National Strategy for the Prevention and Control of Obesity in South Africa (2015-2020) and the development of the new National Obesity Strategy (2022-2027)
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Acronyms used in this document

BMI	Body mass index
CDC	US Centres for Disease Control and Prevention
CGCSA	Consumer Goods Council of South Africa
CHWs	Community health workers
COGTA	Department Of Cooperative Governance and Traditional Affairs
COVID-19	Coronavirus disease 2019
DBE	Department of Basic Education
DoT	Department of Transport
DPME	Department of Planning, Monitoring and Evaluation
DPSA	Department of Public Service and Administration
DSD	Department of Social Development
DSRAC	Department of Sport, Recreation, Arts and Culture
GCIS	Government Communication Information System
HPL	Health promotion levy
M&E	Monitoring and evaluation
NCDs	Non-communicable diseases
NDoH	National Department of Health
NDP	National Development Plan
NGO	Non-governmental organisation
SADHS	South African Demographic and Health Survey
SALGA	South Africa Local Government Association
T2D	Type 2 diabetes mellitus
WHO	World Health Organization

Executive summary

Obesity has emerged as an urgent public health crisis in South Africa. In 2016, 31% of adult males, 67% of adult females, and 13% of under-5 children in South Africa were overweight or obese. Epidemiological studies from around the globe have confirmed that obesity is associated with increased risk of death. The cost of treating obesity comorbidities presents a challenge to the health care system and impacts on productivity and household income. The key drivers of obesity include socio-economic living and working conditions and structural factors that shape the economic and social environments at national and global levels. These factors determine individual choice in terms of healthy eating and physical activity. There is evidence that supports the effectiveness of policy and environmental strategies to prevent obesity and promote an improved quality of life. In 2015, the NDoH committed to work with stakeholders in an effort to reduce obesity prevalence by 10% by 2020. The 2015-2020 obesity strategy was aligned with the WHO Global Strategy on Diet, Physical Activity and Health and the WHO initiative on Ending Childhood Obesity, as well as mainly with the National Development Plan, the Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013–17, and the Health Promotion Policy and Strategy. The National Strategy for the Prevention and Control of Obesity (2015-2020) was developed with goals to promote opportunities for increased physical activity and healthy food options in every setting, including healthcare facilities, early development centres, schools, workplaces and the community at large. The strategy was reviewed to determine if it has achieved its goals and objectives. This document reports the findings of the review of the obesity strategy of 2015-2020.

Aim: To determine if the strategy has achieved its goals and objectives and to use the findings on the successes, challenges and recommendations to update the new obesity strategy 2022-2027.

Methodology: A scoping review method was undertaken to examine the current status in relation to obesity in South Africa and to explore international best practices in the prevention and control of obesity. The review was undertaken in parallel with stakeholder engagement to identify diverse perceptions of what worked, what did not work and what could have been done differently in the 2015-2020 strategy design and implementation, as well as recommendations on what should be included in the updated strategy. The findings of the literature were collated with the information gathered from key informant interviews, questionnaires, and focus group discussions with specific targeted stakeholders from academia, government, civil society, the private sector and the food and beverage industry. The stakeholder engagement process was a key step to involve all relevant stakeholders and to integrate their responses into the updated strategy. The input sought included specific drivers, activities implemented or not implemented, reasons for barriers, and challenges and successes.

Findings: Evidence from the scoping review indicated that population-level policy interventions can offer large benefits for population health at a low cost to society. Subsidisation has a neutral impact on inequities in several studies, while interventions to treat obesity produce decreases in obesity prevalence. The favourable economic profile of regulatory and fiscal policies is largely due to the low implementation costs and potentially higher population coverage.

Challenges identified by stakeholders included the lack of adequate resources for implementation of the strategy, the absence of a strategy review plan, a system to collate information at a national level, a coordinating structure, and a national data repository. Poor commitment from relevant sectors and

a lack of resources meant that some of the planned activities were not effectively carried out. The lack of monitoring and evaluation of the implementation of the strategy meant that it is unclear if all the objectives were achieved. Socio-economic conditions and harmful attitudes and beliefs make it difficult for people to make healthy choices in terms of food and physical activity. The food system is not conducive to healthy eating, with easy access to unhealthy food and drinks, while healthy options are expensive. Misinformation on social media in relation to nutrition and marketing of fast food contribute to unhealthy eating. Health care facilities lack resources to support weight control. The successes included the implementation of the health promotion levy on sugar-sweetened beverages and early child health campaigns. Key recommendations arising from the scoping review include alignment with relevant national priorities, plans and policies, to build on successes, the identification of necessary resources and the development of a clear monitoring and evaluation framework for the strategy. A strong theory of change will connect planned activities with expected outcomes. Key stakeholders should be involved in the development of the strategy and should commit to participation in its implementation.

Conclusions: The review of the 2015-2020 strategy highlighted strengths on which the new strategy should build, and identified challenges in implementation, Weak commitment from relevant sectors and the lack of adequate resources constrained implementation. Failure to monitor implementation of the strategy, coupled with the absence of a measurement of obesity prevalence, it is unclear if the target of a 10% decrease in the prevalence of obesity in all age groups by 2020 has been achieved. The review identified an urgent need to develop and implement an effective social and behaviour change communication strategy to enable communities to take ownership of their health thereby preventing and controlling overweight and obesity. The updated strategy should address microsystems level issues such as the unhealthy school food environment, exosystem level issues such as industry marketing of unhealthy food, and macrosystem level issues such as lack of political will to support the implementation of the strategy. The updated strategy should be based on a clear theory of change and provide evidence to support the proposed actions. Resources, responsible agents for actions, and a monitoring and evaluation plan should be identified and developed collaboratively by all relevant stakeholders.

1. Introduction

Due the increasing prevalence of overweight and obesity and associated non-communicable diseases (NCDs), coupled with increases in the cost of treating NCDs, the National Department of Health (NDoH), in line with National Development Plan (NDP) vision 2030, put into place strategic measures and guidance to reduce obesity in the population of South Africa by 10% by 2020. The 2015-2020 National Strategy for the Prevention and Control of Obesity in South Africa[1] is a population-focused approach concentrated on policy, context, and environmental change.

The strategy aimed to address obesity through modifying the obesogenic environments and reducing the drivers of obesity, while providing opportunities for increased physical activity and healthy food options in every possible setting (including health care facilities, early childhood development centres, schools, workplaces, and the community at large). The strategy identified numerous multisectoral and multidisciplinary approaches that are essential to combat the growing obesity epidemic. In addition, the strategy provided a framework for implementation of key actions accompanied by monitoring, evaluation, and surveillance.

This strategy has now reached the end of its term and the NDoH requires its review and update to respond effectively to the current South African context and to align its mandate with relevant policies, strategies and guidelines such as the National Development Plan (NDP, 2030 Vision), the United Nations Sustainable Development Goals, specifically Goal 3, "*ensure healthy lives and promote well-being for all at all ages*", and the UN Decade of Action on Nutrition.

To assess if the South African national obesity strategy (2015-2020) had the desired outcome, the review team undertook a desktop review of obesity prevalence and trends in South Africa, and changes to key obesity indicators and drivers of obesity. A rapid review of evidence-based international best practices in the prevention and control of obesity was also carried out. Relevant stakeholders and global partners were engaged in either online questionnaires, interviews or focus group discussions to determine what worked and what did not work, as well as what needs to be improved or strengthened.

This information was collated, synthesised, and analysed to update the current strategy. The knowledge and experience of key stakeholders was taken into consideration and the updated strategy builds on existing strengths and addresses identified weaknesses

This report presents the findings of the review of the 2015-2020 National Strategy for the Prevention and Control of Obesity in South Africa.

2. Obesity in South Africa

2.1 The health and economic costs of obesity

Not counting the impact of the current COVID-19 pandemic, non-communicable diseases, including cardiovascular diseases, diabetes mellitus and cancer, are the leading cause of deaths worldwide, accounting for more than 70% of all mortality (Riley et al., 2017). Epidemiological studies from around the globe have confirmed that increased weight is associated with increased risk of death from all causes, most notably NCDs (Maffetone, 2017; Gu et al., 2006; Pischon et al., 2008). Evidence for the

[1] Hereafter "the 2015-2020 strategy"

effects of obesity on the musculoskeletal, gastrointestinal, gynaecological, and urological systems are most robust (Bonfrate et al., 2014; Carbone et al., 2018; Oliveira et al., 2020; Perumpail et al., 2017). The Society for Endocrinology, Metabolism and Diabetes of South Africa estimates that the number of people living with diabetes in Africa will increase by 140% by the year 2040, with obesity driving this diabetes epidemic (Amod, 2017). Furthermore, current estimates are that more than 20% of cancers are caused by obesity (Kyrgiou et al., 2017; Wolin et al., 2010). The International Association for Research on Cancer has declared excessive body fat to lead to the development of cancers of the oesophagus, stomach, colorectum, biliary tract, pancreas, kidney, endometrium, ovarium, breast, and thyroid (Lauby-Secretan et al., 2016).

Morbidity due to obesity was defined for the South African population based on a comparative risk assessment analysis of the 1998 South African Demographic and Health Survey (SADHS) data. This analysis revealed that 87% of type 2 diabetes mellitus (T2D), 68% of hypertension, 61% of endometrial cancer, 45% of ischemic stroke, 38% of ischemic heart disease, 31% of kidney cancer, 24% of osteoarthritis, 17% of colorectal cancer, and 13% of postmenopausal breast cancer were attributable to a raised BMI (Joubert et al., 2007).

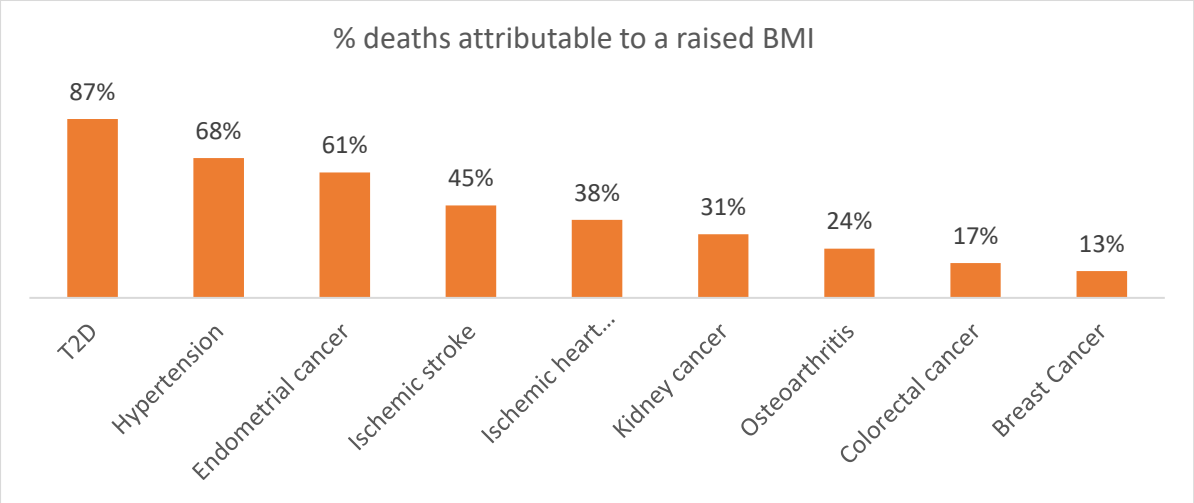


Figure 1: Morbidity due to obesity

Obesity is an urgent public health problem in South Africa. In 2016, 31% of adult males, 67% of adult females, and 13% of under-5 children in South Africa were overweight or obese (Department of Health, 2019).

The current COVID-19 pandemic has demonstrated that obesity is not only a risk for NCDs but can also be a risk factor for infectious diseases. A study exploring the association of obesity, T2D, and hypertension with severe COVID-19 on admission reported that patients who tested positive for COVID-19 had a higher proportion of obesity, diabetes, and hypertension compared with those without a confirmed diagnosis. Compared with patients without obesity, those with obesity showed 1.43-fold higher odds of developing severe COVID-19 on admission, whereas subjects with diabetes and hypertension showed 1.87-fold and 1.77-fold higher odds of developing severe COVID-19 on admission, respectively (Denova-Gutiérrez et al, 2020).

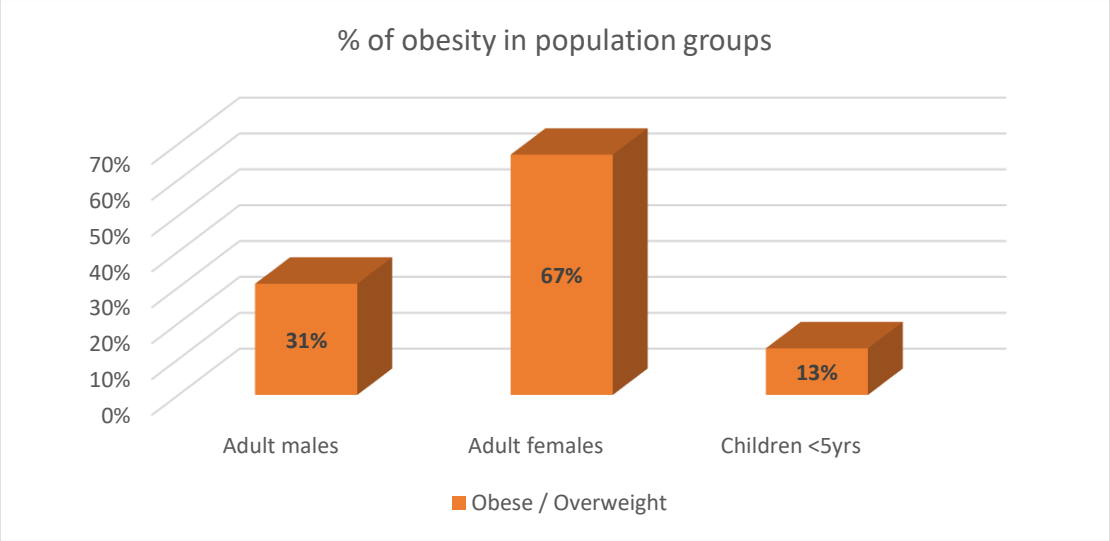


Figure 2: Percentage of population living with obesity (SADHS 2016 as published by NDOH 2019)

The increased cost of treating associated comorbid diseases (such as acute myocardial infarction and cerebrovascular disease) presents a challenge to both private and public health care systems. In addition to individual cost implications due to decreased productivity and subsequent lower household income, both private and public health care costs for treating obesity-related diseases have become an enormous economic burden (Daviglus et al., 2004; Finkelstein et al., 2008; Wang et al., 2011; Sonntag et al., 2016).

The only available estimate for the impact of obesity on the South African economy was performed by Discovery Health in their 2017 Discovery ObeCity Index (Discovery Obesity Index, 2017). This private health insurer evaluated BMI and waist circumference in six South African cities and compared their health care spending. Results suggested that the economic impact of obesity in South Africa is R701 billion each year. This included obesity-related costs such as loss of productivity, medical spending, and absenteeism.

In a cost of illness study designed to estimate the direct cost of T2D in the public sector in South Africa, the diagnosis and management of patients with diagnosed T2D cost R2.7 billion in 2018 (Erzse et al., 2019). This amount increased to R21.8 billion if undiagnosed patients were considered. The 2030 cost of all T2D cases is estimated to be R35.1 billion, with 51% of the cost attributable to the management of T2D and 49% attributable to complications.

2.2 Key drivers of obesity

Addressing the drivers and challenges that are associated with obesity requires understanding how the conditions of the environment in which people are born, live, work, and age, play an important role in shaping health outcomes including obesity. These factors, referred to as **social determinants of health**, are shaped by historical, social, political, and economic forces, and help to explain the relationship between environmental conditions and individual behaviours. Importantly, these factors can undermine the self-regulatory capacity people have to make responsible decisions about personal diet and physical activity. Arguably, social determinants of health affect a wide range of health, functioning, and quality-of-life outcomes and risks (Healthy People 2030).

Social determinants are also differentiated between the socio-economic living and working conditions (societal factors) and the structural factors that shape the economic and social environments at both national and supranational levels. The economic and social environment are influenced by political power and control over decision-making structures and institutions at both local and global levels. In addition, limited language skills and low literacy skills are associated with lower educational attainment and worse health outcomes (Dewalt et al., 2004; Amoah & Phillips, 2018; Healthy People 2030, 2020).

Challenges in relation to addressing obesity as identified by stakeholders were categorised using Bronfenbrenner's Ecological Systems Theory (Figure 1), which incorporate factors that are addressed by the social determinants of health (Bronfenbrenner, 1979; Bronfenbrenner & Evans, 2000) .

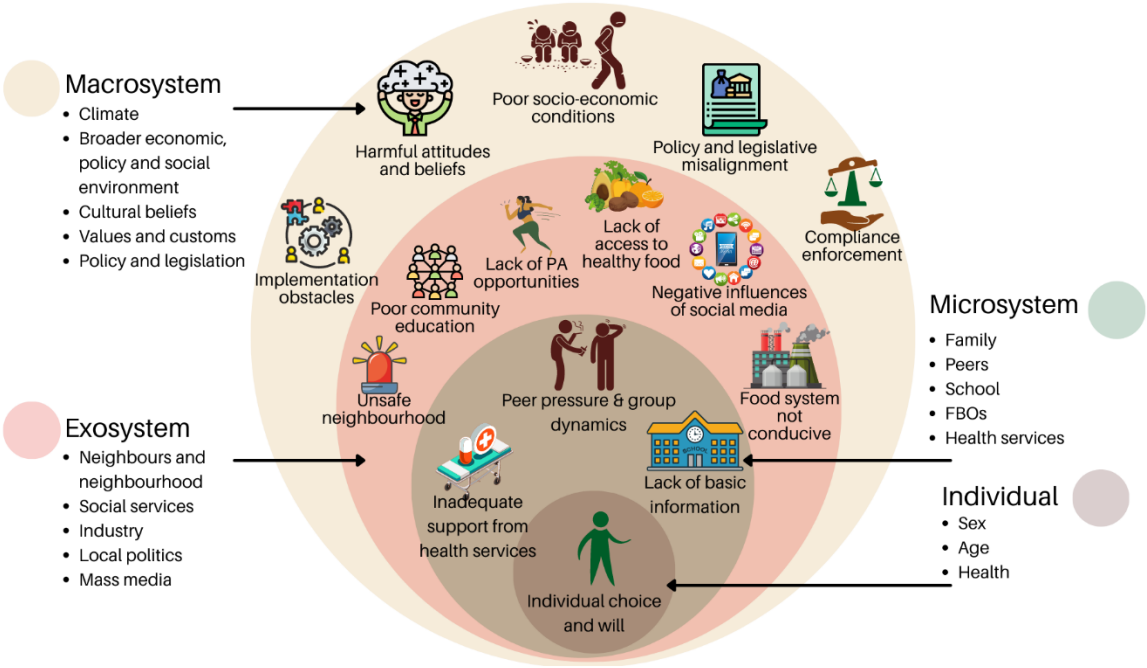


Figure 3: Contextual framework of influencers of obesity (Adapted: Bronfenbrenner's Ecological Systems Theory)

Socio-economic and cultural factors have an influence on food purchasing choices. These include food prices, food habits and food storage, making the population lean towards consumption of processed and packaged foods containing excessive amounts of salt, fat and sugar (NDP, 2011). Poor feeding practices in early childhood has been identified as another contributory factor to the development of obesity in South Africa. While there is clear evidence showing that early breastfeeding contributes to reducing the propensity for adult obesity, the rates of exclusive breastfeeding at six months have been found to be extremely low (Siziba et al, 2015).

The increased movement of the population from rural to urban settings has also contributed to changes in lifestyles in terms of diet and physical activity. When people move to the cities, they often change their diet from traditional diets based largely on staple grains or starchy roots, legumes, vegetables and fruits to the 'western diet' consisting of more energy-dense and processed foods, more foods of animal origin and foods high in sugar, salt and fat (Stern et al., 2010).

The increase in the consumption of the 'western diet' in South Africa has been attributed to the rapid expansion of supermarkets, which have made both staple and packaged foods more affordable (Temple et al., 2011). Although supermarkets offer affordable food prices, healthier food options typically cost between 10% and 60% more when compared with unhealthier options in the retail outlets (Muzigaba et al., 2013). Battersby et al, reported that supermarkets in low-income areas stock less healthy foods than those in wealthier areas, and therefore accelerate this "nutrition transition" (Battersby & Peyton, 2014). These changes are influenced by the changing food supply system and local food environment which promote easy access to cheap, highly palatable, heavily promoted, energy-dense and nutrient-poor foods (Popkin, 1994; Swinburn et al., 2011). In terms of socio-economic status, increased wealth potentially also contributes to a dietary shift to poor decision-making such as bigger portion sizes, and a more frequent intake of fast foods (i.e., animal fat, sugar, and salt) and reduced intake of fruits, vegetables and grains that has been attributed to rising obesity levels in developing settings (Puoane et al., 2006).

Urbanisation has also reduced the need for physical labour and increased the number of jobs involving sedentary or less intensive physical work. Compared to rural settings, in urban cities there is easy access to transport and reliance on bought food. The use of automated devices, more sedentary time spent watching television, lack of neighbourhood safety due to crime, and overcrowding around informal settlements all contribute to low levels of physical activity (Mlangeni et al., 2018).

Since no recent national survey on physical activity could be found, the closest one that could be found was a publication by Mlangeni et al. (2018) analysing a 2012 national representative population-based household survey conducted using a multi-stage stratified cluster sampling design (Shisana et al. 2012). The analysis revealed that out of 26 339 individuals, 57.4 % (CI: 55.9-59) were not physically active, 14.8 % (CI: 13.6-16) were moderately physically active, and 27.8 % (CI: 26.6-29.1) were vigorously physically active.

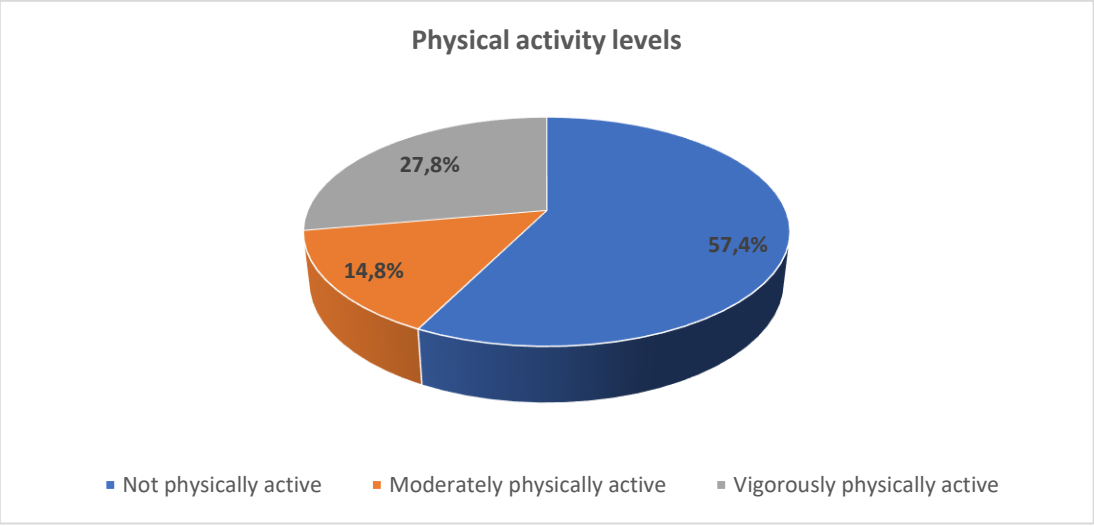


Figure 4: Analysis of survey data on physical activity among individuals

3. Key policy, legislation and plans

3.1 Global policy

The 2015-2020 obesity strategy aimed to align with the WHO Global Strategy on Diet, Physical Activity and Health, the WHO initiative on Ending Childhood Obesity, and halting the prevalence of obesity globally (Strategy for the Prevention and Control of Obesity in South Africa 2015-2020).

The overall goal of the Global Strategy on Diet, Physical Activity and Health is "to promote and protect health by guiding the development of an enabling environment for sustainable actions at individual, community, national and global levels that, when taken together, will lead to reduced disease and death rates related to unhealthy diet and physical inactivity" (Global Strategy on Diet, Physical Activity and Health, 2004). Four main objectives are identified in the strategy:

1. To reduce the risk factors for noncommunicable diseases that stem from unhealthy diets and physical inactivity by means of essential public health action and health-promoting and disease preventing measures.
2. To increase the overall awareness and understanding of the influences of diet and physical activity on health and of the positive impact of preventive interventions.
3. To encourage the development, strengthening and implementation of global, regional, national and community policies and action plans to improve diets and increase physical activity that are sustainable, comprehensive, and actively engage all sectors, including civil society, the private sector and the media.
4. To monitor scientific data and key influences on diet and physical activity; to support research in a broad spectrum of relevant areas, including evaluation of interventions; and to strengthen the human resources needed in this domain to enhance and sustain health.

The WHO initiative on Ending Childhood Obesity recommends six key areas of actions for member states to take:

1. Implement comprehensive programmes that promote the intake of healthy foods and reduce the intake of unhealthy foods and sugar-sweetened beverages by children and adolescents.
2. Implement comprehensive programmes that promote physical activity and reduce sedentary behaviours in children and adolescents.
3. Integrate and strengthen guidance for noncommunicable disease prevention with current guidance for preconception and antenatal care, to reduce the risk of childhood obesity.
4. Provide guidance on, and support for, healthy diet, sleep, and physical activity in early childhood to ensure children grow appropriately and develop healthy habits.
5. Implement comprehensive programmes that promote healthy school environments, health and nutrition literacy and physical activity among school-age children and adolescents.
6. Provide family-based, multicomponent services on lifestyle weight management for children and young people who are obese.

Tables 1 and 2 below illustrate alignment of the goals articulated in the relevant policy and strategy documents:

Table 1: Alignment of the WHO Global Strategy on Diet, Physical Activity and Health with the South African national obesity strategy 2015-2020

Global Strategy on Diet, Physical Activity and Health	**National strategy for the prevention and control of obesity 2015-2020**
to reduce the risk factors for noncommunicable diseases that stem from unhealthy diets and physical inactivity by means of essential public health action and health-promoting and disease preventing measures;	Goal 2: create an enabling environment that supports availability and accessibility to healthy food choices in various settings Goal 3: increase percentage of the population engaging in physical activity
to increase the overall awareness and understanding of the influences of diet and physical activity on health and of the positive impact of preventive interventions;	Goal 5: communicate with, educate and mobilise communities Goal 4: support obesity prevention in early childhood (in-utero to 12 years)
to encourage the development, strengthening and implementation of global, regional, national and community policies and action plans to improve diets and increase physical activity that are sustainable, comprehensive, and actively engage all sectors, including civil society, the private sector and the media;	Goal 1: create an institutional framework to support inter-sectoral engagement
to monitor scientific data and key influences on diet and physical activity; to support research in a broad spectrum of relevant areas, including evaluation of interventions; and to strengthen the human resources needed in this domain to enhance and sustain health	Goal 6: establish a surveillance system, strengthen monitoring, evaluation and research

Table 2: Alignment of the WHO initiative on Ending Childhood Obesity with the South African national obesity strategy 2015-2020

WHO initiative on Ending Childhood Obesity	**National strategy for the prevention and control of obesity 2015-2020**
Implement comprehensive programmes that promote the intake of healthy foods and reduce the intake of unhealthy foods and sugar-sweetened beverages by children and adolescents	2.2 Ensure that food and beverage products sold are aligned with optimal national and international nutritional standards 2.3 Ensure responsible and ethical advertising and marketing of food by the food industry 2.4 Implement user-friendly food labelling education tool

WHO initiative on Ending Childhood Obesity	National strategy for the prevention and control of obesity 2015-2020
	2.5 Increase access and availability of vegetables and fruits 2.6 Promote healthy eating in different settings
Implement comprehensive programmes that promote physical activity and reduce sedentary behaviours in children and adolescents	5.2 Create demand for healthy food and environments conducive to physical activity
Integrate and strengthen guidance for noncommunicable disease prevention with current guidance for preconception and antenatal care, to reduce the risk of childhood obesity	4.1. Strengthen and support appropriate weight gain and healthy eating during pregnancy 4.2 Strengthen the protection, promotion, and support of optimal breastfeeding to explicitly address obesity 4.3 Ensure appropriate complementary feeding practices to explicitly address obesity 4.4 Ensure explicit focus on obesity prevention in routine growth monitoring in children
Provide guidance on, and support for, healthy diet, sleep and physical activity in early childhood to ensure children grow appropriately and develop healthy habits	4.5 Promote healthy eating and physical activity in early childhood development 6.1 Increase access to health screening services
Implement comprehensive programmes that promote healthy school environments, health and nutrition literacy and physical activity among school-age children and adolescents	3.3 Promote physical activity in schools 5.1. Develop a communication plan targeting various age groups on healthy eating, regular physical activity and risks associated with obesity
Provide family-based, multicomponent services on lifestyle weight management for children and young people who are obese	

3.2 National policy, legislation and plans

3.2.1 The National Development Plan

Clear alignment with the National Development Plan (NDP) Vision 2030 can be seen in the 2015-2020 strategy. The NDP commits the Government of South Africa to improving long-term health outcomes by prioritising, amongst other things, nutrition, physical activity, combating smoking, and alcohol abuse. The NDP recognises the need to:

- Address the social determinants of health including promoting healthy behaviours and lifestyles
- Strengthen intersectoral and inter-ministerial collaboration to promote health in South Africa.

- Train and manage community health workers in adequate numbers and deploy them where most needed.

Goal 4 of the NDP, to *"significantly reduce the prevalence of non-communicable chronic diseases"* and Goal 7, "*primary healthcare teams provide care to families and communities", are* specifically relevant to the national strategic plan to prevent and control obesity.

The 2015-2020 strategy committed to, *inter alia*:

- Establishing an inter-sectoral platform that addresses prevention and control of non-communicable diseases, including obesity.
- Creating a supportive environment that promotes healthy food choices and physical activity.
- Communicating with, educating and mobilizing communities to empower and encourage behavioural changes by individuals, families and communities, to make positive, life-enhancing decisions on healthy diets and physical activity.
- Strengthening settings-based interventions such as in schools and workplaces.
- Supporting research that brings new knowledge towards tackling the epidemic.

3.2.2 Strategic Plan for the Prevention and Control of Non-Communicable Diseases (2013-17)

The Strategic Plan for the Prevention and Control of Non-Communicable Diseases has three major components:

1. Prevent NCDs and promote health and wellness at population, community and individual levels.
2. Improve control of NCDs through health systems strengthening and reform.
3. Monitor NCDs and their main risk factors and conduct innovative research.

Table 3 below illustrates the alignment:

Table 3: Alignment of the South African national policy on NCDs with the South African national obesity strategy 2015-2020

Strategic Plan for the Prevention and Control of Non-Communicable Diseases (2013-17)	**National strategy for the prevention and control of obesity 2015-2020**
Prevent NCDs and promote health and wellness at population, community and individual levels	Goal 5: Communicate with, educate and mobilise communities
Improve control of NCDs through health systems strengthening and reform	*There are no clear goals or objectives aligned to this component*
Monitor NCDs and their main risk factors and conduct innovative research	Goal 6: Establish a surveillance system, strengthen monitoring, evaluation and research

3.2.3 Health Promotion Policy and Strategy (2015-2019).

The Health Promotion Policy and Strategy identifies five goals:

1. Advocate for healthy public policies to achieve health outcomes.
2. Empower local communities on health promotion approaches that facilitate strengthened community action and ownership.
3. Create an enabling environment that promotes healthy behavioural practices.
4. Strengthen human resources capacity to deliver health promotion services.

5. Strengthen systems to monitor and evaluate health promotion interventions.[2]

Alignment with the 2015-2020 strategy is illustrated in the table below.

Table 4: Alignment with the Health Promotion Policy and Strategy (2015-2019)

Health Promotion Policy and Strategy (2015-2019)	**National strategy for the prevention and control of obesity 2015-2020**
Advocate for healthy public policies to achieve health outcomes	- Influence fiscal policies related to sugar sweetened beverages - Support and reinforce implementation of existing policies and initiatives to promote, protect and support breastfeeding - Incorporate explicit obesity prevention and control messages in ECD policies and guidelines
Empower local communities on health promotion approaches that facilitate strengthened community action and ownership	Goal 5: Communicate with, educate and mobilise communities
Create an enabling environment that promotes healthy behavioural practices	Goal 2: Create an enabling environment that supports availability and accessibility to healthy food choices in various settings
Strengthen human resources capacity to deliver health promotion services	- Build capacity of healthcare providers to advise on appropriate complementary feeding practices - Capacity building on weight status assessment and interpretation thereof - Build capacity in obesity research and knowledge transfer
Strengthen systems to monitor and evaluate health promotion interventions	Goal 6: Establish a surveillance system and strengthen monitoring, evaluation and research

3.2.4 Other policies, legislation and plans that need to be taken into consideration

Section 27 of the South African Constitution, which states that "everyone has the right to have access to sufficient food and water" (Constitution of the Republic of South Africa, 2015), and directs that "the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights", is a foundational principle against which the strategy should be shaped. It is against this background that in 2016, the South African Finance Minister, Pravin Gordhan, in his Budget speech at that time, revealed plans to introduce a tax on sugar-sweetened beverages (In Mail & Guardian of 2016 as cited by Spier and co-workers, 2020). A tax on sugar-sweetened beverages was implemented on 1 April 2017 - similar to the "sin taxes" on alcohol and tobacco.

Other relevant national-level policies, programmes and strategies that shape provincial and community-level actions impacting food environments are the Integrated Food Security Strategy, the Integrated Nutrition Programme, the National School Nutrition Programme (South African

[2] 'The National Health Promotion Policy and Strategy 2015-2019' (no date). Department of Health.

Department of Health, 2002), the National Policy on Food and Nutrition Security (South African National Department of Education, 1994; Department of Social Development; Department of Agriculture, Forestry and Fisheries, 2014), and the National Development Plan (National Planning Commission. National Development Plan 2030, 2012).

However, collectively, these policies frame food insecurity as primarily a rural and food production issue; few resources have been allocated to municipalities to address urban concerns around this issue, which some argue is where the focus is currently needed. Overall, these policies do not take environmental issues into account or spatial contexts around access; rather, they focus on household-level issues such as income generation, government safety nets, and nutritional programmes, and increasing production (Battersby et al., 2017). The Integrated School Health Programme provides a policy framework for adequate school environments and includes three school health packages and services, namely: health assessment and screening, health education and promotion, and on-site services (Department of Basic Education: National School Nutrition Programme, 2013).

3.3 Implementation of the strategy against policy

In terms of the international best practice regarding policy, a review study by Fox and Horowitz (2013), indicated that the combination of evidence and ethical concerns provides a framework to assist decision makers in assessing best practices in obesity, integrating a more multifaceted set of dimensions consisting of evidence, empirical studies and theories, ethics, liberty, and equity. Other concerns to be taken into consideration are cost-effectiveness, political feasibility, objections from industry and unintended consequences.

Additionally, the United States Centres for Disease Control and Prevention (CDC) states that no single or simple solution to the obesity epidemic exists. The CDC states that obesity is a complex problem and there must be a multifaceted approach whereby policy makers, state and local organisations, business and community leaders, school, childcare and healthcare professionals, and individuals must work together to create an environment that supports a healthy lifestyle. Regarding the outlined multifaceted approach of tackling obesity, the South African government under the auspices of the NDoH made some strides in bringing other stakeholders in the implementation of obesity strategy, though the road to ensure successful implementation of the strategy is still a long way to go.

4. Strategy review approach and methodology

4.1 Approach

Against the backdrop of international and national policy and legislation as well as best practices, the theory of change for the obesity strategy (2015-2020) was evaluated in terms of what the strategy set out to achieve, and how the strategy planned to achieve its objectives.

An overarching principle outlined in the 2015-2020 strategy is: “the grounding factor of this strategy *is* ***communication, education and mobilisation of all the key stakeholders*** in the fight against overweight and obesity”. The strategy further stated that “The strategic objectives of this framework can only be achieved if the implementers are aware of it, educated as to its purpose and take ownership of the intended outcomes. In addition, the public at large should not only be aware of obesity and its consequences, but also be encouraged to become advocates for change, not only in

their own lives, but also in the places they live, work, travel, and play." Implementation was focused on intersectoral actions at the national, provincial and district levels. A key component of the review approach was, therefore, a wide stakeholder engagement to understand the extent to which the strategy enabled this intersectoral action and mobilisation of the key stakeholders.

4.2 Methodology

4.2.1 Best Practices

To establish where and how national obesity strategies have been successfully implemented and to learn from key success factors that can be applied to the South African context, the review team prepared a best practices report. The team conducted an online literature search using scoping review methodology to identify current trends in obesity and its associated comorbidities, both globally and in South Africa, and assessed interventions that have been utilised successfully in national obesity strategies around the world considering cost-effectiveness and equitability. It furthermore described specific local challenges and aimed to identify evidence for key success factors that can be applied to the South African context. By studying examples from other obesity strategy reports in Asia Pacific, Latin American, and European countries, common lessons emerged that can help to inform South Africa's next obesity strategy. The executive summary of the best practices report can be found in Appendix 1. The full report can be accessed here: Best Practices Report FINAL Oct 2021.pdf

4.2.2 Stakeholder Engagement[3]

The findings of the literature review and the information gathered from key informant interviews (questionnaires and focus group discussions with targeted stakeholders from academia, government, civil society, the private sector, health professionals, and the food and beverage industry) were collated. The national strategic plan allocates responsibilities to certain stakeholders to implement aspects of the strategy. The stakeholder engagement process was a key step to ensure that all relevant stakeholders have been adequately consulted and that their insights have been taken into consideration both in the review of the previous strategy and for integration into the updated strategy.

The review team engaged with representatives from each group tasked to deliver on the specific actions in relation to the objectives, as outlined in the strategy document. Since the aim of the review team was to assess if the obesity strategy had achieved its objectives and to recommend changes to update the strategy, they engaged with stakeholders to understand if the action was taken and if it was, what the challenges or blockages in undertaking the actions were, as well as the success factors that would have contributed to for effective execution. In addition, the review team probed stakeholder's perceptions on what should have been done differently to ensure that the strategy achieved what it intended to achieve. Questions were also asked in relation to the challenges related to the prevention and control of obesity, what strategies have been successful in addressing obesity and ideas on what can be included in the updated strategy.

The first step in the process was to map stakeholders to gain an understanding of their influence and interest in successfully implementing the strategy. Specific questionnaires were then developed for

[3] See Stakeholder Engagement Report: Appendix 2, or access the document here: Stakeholder Engagement Report

the various identified groups of stakeholders. An online platform as well as in-person interviews were used to collect data from 396 respondents across the groups of stakeholders, as reflected in Table 4 below:

Table 5: Stakeholders engaged in review process

Stakeholder group description	Type of engagement	Respondents
National level key informants from NDoH Nutrition Directorate	Focus Group Discussion	3
National-level secondary informants with roles in the implementation of aspects of the strategy (NDoH, DSD, DBE)	Questionnaire	8
Provincial-level informants: implementers at provincial and local levels	Questionnaire	14
Interested Parties (professional associations, health organisations, advocacy groups)	Questionnaire	22
Academics and research institutions	Questionnaire	16
Industry role players who are impacted by implementation of the strategy	Questionnaire	14
Private sector interested parties with a vested interest in a healthy population (medical aid schemes)	Questionnaire	6
Local-level health professionals (clinicians, dietitians, nutritionists, biokineticists, nurses)	Questionnaire	179
Community influencers (CHWs, educators, community members and councillors)	Questionnaire	59
Local-level food outlet managers (tuck shop owners, street vendors)	Questionnaire	24
People affected by obesity (obese individuals as target for the obesity strategy)	Questionnaire	51
Total respondents		**396**

In the execution of the review, the review team made efforts to perform the engagement process according to the Protection of Personal Information Act.

See Appendix 2 for the Stakeholder Engagement Report which includes details of stakeholder mapping and questionnaire development, as well as challenges and key findings. The full report can also be accessed here: Stakeholder engagement report FINAL.docx

5. Understanding the theory of change

5.1 Theoretical background

The 2015-2020 strategy did not specifically outline a theory of change. Based on the Department of Planning, Monitoring and Evaluation (DPME) National Evaluation Policy (2019), the 2015-2020 strategy's theory of change was considered against an adapted version of the DPME evaluation framework as illustrated below.

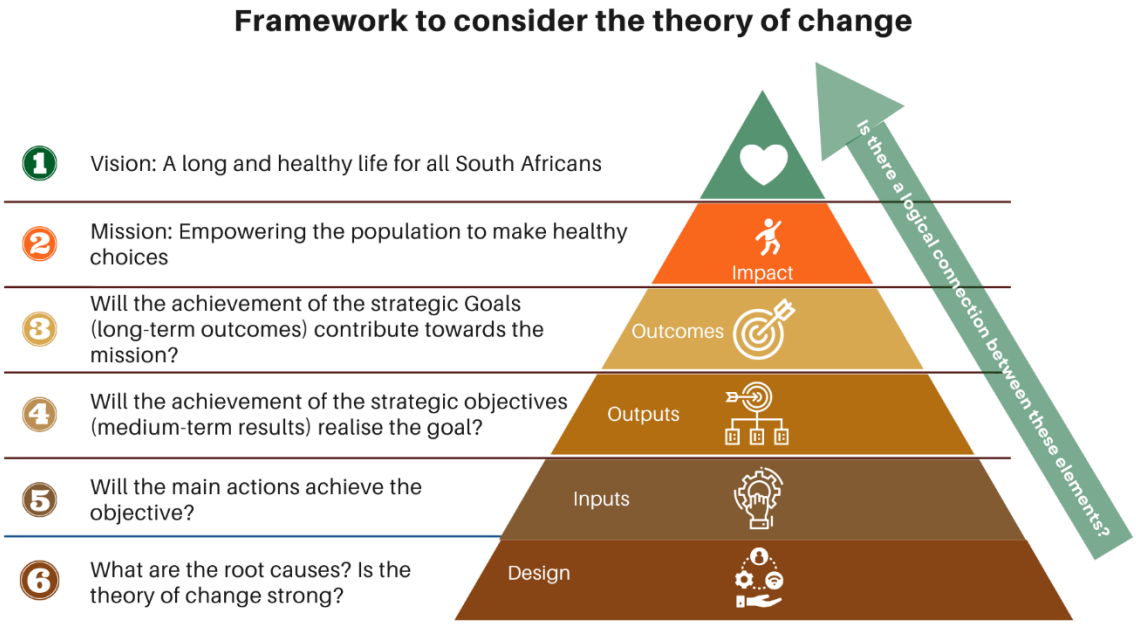


Figure 5: Theory of Change adapted from the DPME monitoring and evaluation framework

The 2015-2020 strategic framework was based on the WHO framework to monitor and evaluate implementation of the Global Strategy on Diet, Physical Activity and Health. The WHO framework was intended as a guide, to be adapted by countries developing context specific national NCD strategies that incorporate a framework for monitoring and evaluating the performance of activities on outputs, intermediate outcomes, and end goals.

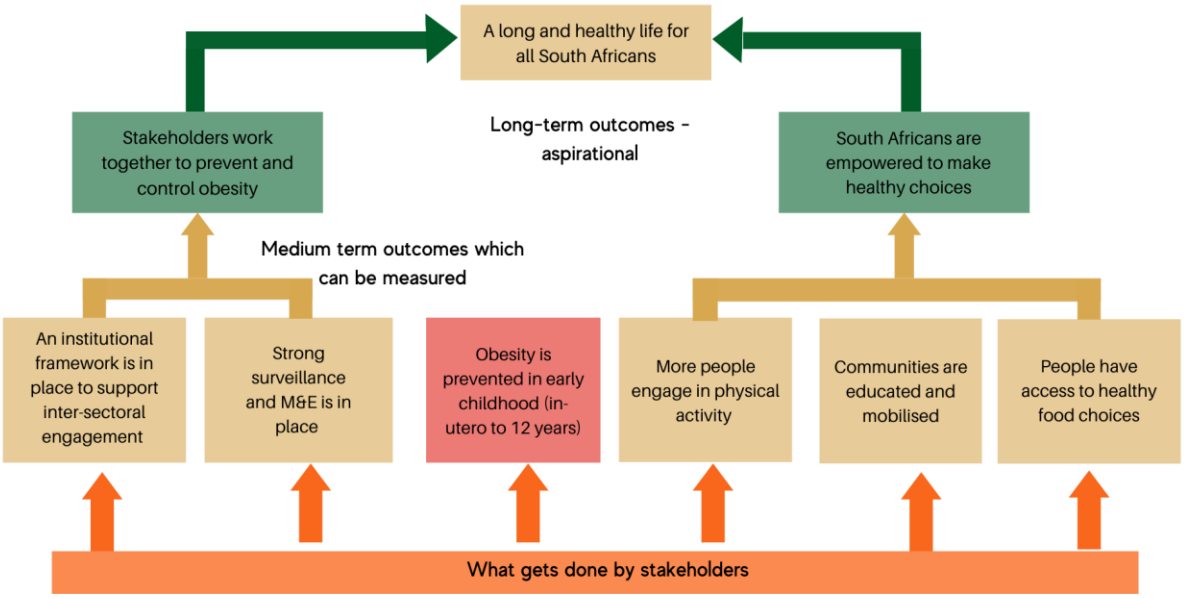
Using this framework, the 2015-2020 strategy set out to implement a set of actions aimed at changing the obesogenic environment by promoting healthy diets and supporting and fostering increased physical activities. Actions described in the strategy were designed to achieve six broad goals:

1. Create an institutional framework to support inter-sectoral engagement
2. Create an enabling environment that supports the availability and accessibility of healthy food choices in various settings
3. Increase the percentage of the population engaging in physical activity
4. Support obesity prevention in early childhood (in-utero – 12 years)
5. Communicate with, educate, and mobilise communities
6. Establish a surveillance system, strengthen monitoring and evaluation, and research

The strategy included targets to stop the increase in obesity prevalence by 2016, a 3% decrease by 2017 and a 10% decrease by 2020. The actions or activities were expected to result in outputs that included the creation of environments that facilitate choices in healthy alternatives, the implementation of policies to foster and promote healthy diets and physical exercise and the implementation of programmes by multiple stakeholders. The framework also acknowledged the cross-cutting activities undertaken to provide leadership, coordination and resource generation to ensure the successful implementation of these activities as well as to monitor the impact of these activities. For each output, the strategy defined performance indicators and intermediate outcomes to be used to monitor progress and the impact of each action.

5.2 Strength of the theory of change

Using the model illustrated in Figure 5 above, a logical connection has to be made between the actions planned and the outputs and outcomes achieved; actions have to lead to outcomes and outcomes have to contribute towards achieving the stated overall mission and vision. The implementation framework can be illustrated as follows:



In considering the 2015-2020 strategy's theory of change within the context of the DPME monitoring and evaluation framework model (as illustrated in figure 5), the review team concluded that while the strategy provided a comprehensive list of key activities/actions aimed at achieving each of the six strategic goals, the theory of change as presented above did not fully translate into a logical framework for tracking the impact of each action on medium-term outputs and long-term outcomes. In particular, Goal 4: "support obesity prevention in early childhood (in-utero – 12 years)", does not immediately link to any long-term outcomes. Overall, based on the steps followed in the review process, the following shortcomings of the 2015-2020 strategy were identified:

1. Resources required to implement the set of actions as well as resources required for monitoring, evaluation and surveillance were not proposed in the strategy.

2. For most activities, multiple government departments and organisations were listed as being responsible. However, it was unclear which organisation/department was explicitly responsible for taking the lead in implementing and monitoring the impact of an activity/action.

3. The strategy did not provide a plan for how the impact of each action will be monitored and evaluated; for how the outputs and intermediate indicator will be measured/collected as well as who will be responsible for monitoring progress over the lifetime of the strategy such that

identified bottlenecks and challenges are addressed in time to ensure that the 10% reduction in obesity prevalence is achieved by 2020.

4. Although the strategy outlined performance indicators for each activity/action, the strategy did not specify intermediate outcome targets – these targets were left to the discretion of the government department or organisation responsible for implementing an action, thus, potentially resulting in a disconnect between intermediate outcomes and end targets.

5. The theory of change did not explicitly outline assumptions and risks that are likely to impact on how activities/actions undertaken are successfully translated into outputs, intermediate outcomes, and end targets.

6. Key findings

6.1 Best practices

Compared with individually targeted interventions, population-level policy interventions (most notably taxes) can offer large, equitable and sustained benefits for population health at a low cost to society (Olstad et al., 2016). Subsidisation, although less cost-effective, has a neutral impact on inequities in several studies, while interventions to treat obesity produce the most sizable decreases in obesity prevalence (Vidaña-Pérez et al., 2021). Regulatory and fiscal policies result in the largest cost savings (Ananthapavan et al., 2020). The favourable economic profile of regulatory and fiscal policies compared to other preventative programmatic interventions is largely due to the low implementation costs and potentially higher coverage across a wider population resulting in lower cost per person. However, the strength of evidence of the effectiveness of these interventions is comparatively lower (Ananthapavan et al., 2020; Gortmaker et al., 2015a).[4]

6.2 Stakeholder engagement[5]

6.2.1 Stakeholder responses according to the six broad goals of the 2015-2020 strategy

Six different goals and 57 actions are listed in the 2015-2020 strategy document along with responsible stakeholders for each action.

Goal 1 was to create an institutional framework to support inter-sectoral engagement.

The first objective for goal 1 was to **establish a structure to drive and govern implementation.** Responsible stakeholders were the national government, private sector and NGOs. The second objective was to advocate for resources from different sectors and implementers which were not specified, but only referred to as 'all departments'. According to the stakeholders from NDoH these objectives could not be achieved due to lack of commitment from stakeholders outside NDoH and because a dedicated coordinator to ensure establishment of structure was not identified. Limited capacity within NDoH constrained the implementation of the strategy and only an informal framework was structured. There was neither a clear, explicit monitoring and evaluation (M&E) framework nor a

[4] The Best Practices Report Executive Summary can be found in Appendix 1

[5] The Stakeholder Engagement Report can be found in Appendix 2

strategy review plan. As a result, it is unclear what aspects of the strategy worked better or worse, and why. The implementation of the strategy was under-resourced.

Goal 2 was to create an enabling environment that supports availability and accessibility of healthy food choices in various settings.

The first objective for goal 2 (Objective 2.1) was to **promote the development and implementation of a relevant legislative framework**. Responsible implementers included the NDoH, Treasury, DPME and academics. Only one key action was identified in relation to this objective: "Influence fiscal policies related to sugar sweetened beverages". According to the NDoH respondents, this action was successfully implemented as the health promotion levy (HPL), also called the "sugar tax", and was driven by the National Treasury. Stacey et al. (2021) assessed the changes in the purchase of sugar sweetened beverages (SSBs) after announcement of the HPL and found that mean sugar consumption from taxable beverage purchases decreased from 16.2 g/capita per day to 10.6 g/capita per day in the year after implementation. Mean volumes of taxable beverage purchases fell from 518.99 mL/capita per day to 443.39 mL/capita per day after implementation.

In relation to Objective 2.2 "**Ensure that food and beverage products sold are aligned with optimal national and international nutritional standards**", NDoH introduced measures to limit the sodium and fat content of bread and other processed foods, but it is difficult to assess food manufacturers' compliance. Enforcement of the Foodstuffs, Cosmetics and Disinfectants Act 172 (Act no. 54 of 1972) is carried out by food Inspectors at local authority level, who are overburdened with other responsibilities. Food Inspectors are registered under the auspices of the Professional Board for Environmental Health Practitioners (EHPs). In a Report back from Departments of Health, Trade and Industry, and Agriculture, Forestry and Fisheries on meat inspection services and labelling in South Africa (Parliamentary Monitoring Group June 2013), the departments recognised the inadequacy in the coordination of food control systems. Challenges identified in this meeting included:

- The need for a high-level decision, to ensure the strengthening of food safety controls;
- Fragmentation of food control authorities;
- Limited capacity for appropriate scientific inputs in decision-making processes;
- Lack of an integrated strategy and capacity at food laboratories;
- Lack of capacity to conduct animal species quantitative analysis;
- The need for the approval of an official traceability and recall policy and system;
- Fragmentation and poor coordination of intra- departmental structures;
- Fragmented food inspections compromising enforcement and compliance;
- Inadequate information, education and communication to consumers on food safety and food control matters;
- The need to broaden access and participation between the public and private sector on sanitary and phytosanitary (SPS) issues;
- The need to improve border controls;
- Insufficient specialized legal expertise on food safety and food control matters.

Because it was voluntary not all companies made progress on product reformulation, with some making little progress and some companies making no progress at all. Limited human resources for monitoring of product content resulted in lack of adherence to such an agreement.

In relation to Objective 2.3: "**Ensure responsible and ethical advertising and marketing of food by the food industry**, the draft regulation, R429, tabled in 2014, and relating to the labelling and advertising of foods, covers packaged food but not foods served in quick service restaurants. R429 aimed to prohibit the commercial marketing of food or non-alcoholic beverage to children unless it complies with as set of criteria (Guideline 14). This included limiting advertising in places where children are likely to gather, such as crèches, schools, and sports events. It makes provision for nutrient profiling, front of pack labelling (FoPL), the use of the South African Food Based Dietary Guidelines (SAFBDGs), and regulation of the marketing of foods and non-alcoholic beverages to children. However, the draft regulation elicited so many public comments, that the amended regulations will most likely be quite different. R429, therefore, is not in effect and cannot be enforced. The current regulation, R146, relates to the labelling and advertising of foodstuffs, in terms of prohibited statements, such as endorsements, claims, additives and nutritional information, but does not include stipulations for FoPL or advertising.

In relation to Objective 2.4: "**Implement user-friendly food labelling education tool**", three of the 16 respondents from academic and research institutions reported being formally involved with development and implementation of a relevant legislative framework for implementing the food labelling education tool. These respondents worked with government departments in providing evidence on the need for these implementations. Respondents from academic institutions reported that they promoted healthy eating in different settings (69%), and increased access and availability of vegetables and fruits (44%), but examples were not provided.

Objective 2.5 to "**increase access and availability of vegetables and fruits**" saw NDoH working with industry and retailers to make healthy food available by recommending the removal of unhealthy snacks at supermarket aisles. But since these recommendations were reliant on voluntary efforts, only some companies complied.

The majority of industry respondents (79%) reported that they play a role in the prevention and control of obesity in South Africa, by participating in discussions on food or beverage reformulation (86%) and on the tax of sweetened beverages (50%). Several stakeholder groups reported that they participated in implementing some of the objectives, although few examples were provided of actions related to these objectives. In many cases, activities were limited to local settings, such as an industry stakeholder that teaches people how to live a healthy lifestyle, by presenting healthy food cooking courses around the country and educating diabetic people in rural areas on what to eat. Another company offers guidance on portions for their products and the addition of fruit and vegetables in recipes. This company claims that 100% of its children's portfolio meets the criteria of an international Nutritional Profiling System, assessing the healthiness of foods. They launched a 'Healthier Kids' campaign to empower parents, caregivers and teachers to foster healthy behaviours in children and to promote fruit and vegetable intakes. Other respondents reported that they launched media events highlighting responsible snacking. Industry respondents reported that they played a role to ensure responsible and ethical marketing of food or beverages, by adhering to internal guidelines for Marketing to Children, which stipulates no marketing to children of 12 years and younger.

Goal 3 was to increase the percentage of the population engaging in physical activity.

The responsible agents were South Africa Local Government Association (SALGA), Department of Cooperative Governance and Traditional Affairs (COGTA), provincial and local governments,

Department of Sport, Recreation, Arts and Culture (DSRAC), Department of Basic Education (DBE), Department of Transport (DoT), Department of Social Development (DSD) and NGOs. Objectives related to access to safe places for recreational activities in communities, schools, and worksites and promoting active transport. The key informants from NDoH reported that DSRAC was primarily responsible for the implementation of this goal. No responses were received from DSRAC, and there has been no measurement or monitoring of relevant indicators in relation to promoting physical activity in different settings. Informants from NDoH stated that within NDoH physical activity is encouraged on wellness promotion days, and some provinces organised physical activity events. The informants claimed that some resources had been allocated to this objective, and physical activities such as runs, walks, group exercises, stretching and dancing have been implemented in some government events. Provincial level respondents reported that more people engage in physical activity at some workplaces where Wednesdays were dedicated to physical activity events.

Goal 4 was to support obesity prevention in early childhood (in-utero-12 years).

Responsible agents included NDoH, DSD, DBE, Department of Public Service and Administration (DPSA), provincial health care managers, and antenatal clinic staff. Five objectives were included focussing on prevention of obesity during pregnancy and early childhood and appropriate infant feeding practices. NDoH stakeholders mentioned the implementation of the "Side-by-Side" national campaign to ensure that all children under 5-years receive sufficient nurturing care for optimal development with a focus on nutrition and breastfeeding. Health workers and Early Childhood Development managers were trained to provide support and information to caregivers of infants and children. NDoH provided policies and guidelines for this campaign and ensured that the provinces had sufficient capacity to implement the campaign, led by the Schools and Child Health cluster within NDoH.

Goal 5 was to communicate with, educate and mobilise communities.

The responsible agents were NDoH, Government Communication Information System (GCIS), DSRAC, SALGA, CGCSA, provincial and local government departments, NGOs, consumer groups, community forums, private sector, religious groups, transport sector, and urban planners. Objectives were to develop a communication plan targeting various age groups on healthy eating, regular physical activity and risks associated with obesity, and to create demand for healthy food and environments conducive to physical activity. The NDoH respondents and provincial stakeholders reported that communication, education and mobilisation was done during the annual National Nutrition Week and World Obesity Day by a multi-sectoral group working on the messaging and activities for National Nutrition Week. Provincial level stakeholders from North West Province reported promotion of healthy eating through the North West on Wellness activities. Respondents from interested parties reported being involved with developing a communication plan targeting various age groups on healthy eating, regular physical activity and risks associated with obesity, to implement strategies for community mobilisation, e.g. community dialogues and campaigns.

Goal 6 was to establish a surveillance system and strengthen monitoring, evaluation and research.

The responsible stakeholders were national, provincial and local government departments, and private and academic sectors. Objectives were to increase access to health screening services, monitor and evaluate performance indicators, collate and communicate evidence-based information to stakeholders on obesity prevention and management, and to set and implement the research agenda

for obesity. In the opinion of the NDoH respondents the main reason why this goal has not been achieved is that reporting is not prioritised at a national level and provinces have to monitor their own indicators without clear guidelines.

Apart from the collection of a limited number of key indicators through the District Health Information System (DHIS), there is no system for provinces to collate information on obesity indicators and send the data to a national data repository. Specific obesity indicators are not included in the DHIS. There is also no coordinating structure for a national surveillance system to monitor the implementation of the obesity strategy. Of the responses received from the academic and research group, 31% reported that they collated and communicated evidence-based information on obesity prevention and management to stakeholders and 38% from this group reportedly contributed to setting and implementing the research agenda for obesity.

Provinces conduct health screening during provincial health days, but community health workers (CHWs) do not conduct weight and height screening routinely during home visits.

The key shortcoming in relation to this goal is that reporting is not prioritised at a national level and provinces have to monitor their own indicators without clear guidelines. DHIS only collects data on key indicators and currently indicators to monitor obesity are not included. The departmental M&E system does not include indicators to monitor the implementation of the obesity strategy.

6.2.2 Successes reported by stakeholders

Respondents were asked to identify what they thought the successes were in relation to each of the goals. Because a purposeful sampling strategy with wide variation was adopted to capture a breadth of perceptions from individuals involved in the development and implementation of the 2015-2020 strategy, combined with a snowball sampling approach to reach users and beneficiaries, results are skewed towards one group, (local level health professionals), introducing in-group bias. Consequently, successes and challenges cannot be weighted according to frequency of reporting and were treated in clusters, which produced emerging themes.

Success factors related to **goal 1** (*create an institutional framework to support inter-sectoral engagement*) included support from NDoH, some intersectoral collaboration, multidisciplinary team efforts and the willingness of CHWs to participate. The leading role of some health professionals and the integration of healthy eating and physical activity into existing strategies were also reported. There is however a lack of data linked to the implementation of the 2015-2020 National Obesity Strategy that could be used as evidence to support these findings.

Under **goal 2** (*create an enabling environment that supports availability and accessibility to healthy food choices in various settings*), two actions can be regarded as successes. Based on the information given by the key stakeholders from NDoH, and supported by the view of health professionals, provincial level key informants and interested parties, the HPL, also called the “sugar tax”, was successfully implemented and supported by the National Treasury. This success was reported by the widest range of different stakeholders participating in the stakeholder engagement process. However, this intervention needed to be accompanied by strategies to influence behaviour among the population. A study by Essman et al. (2021) found that although there was a reduction in the purchase of taxed beverages, there was an increase in the consumption of untaxed sweetened beverages.

Another reported success related to goal 2 was the increase in household and community vegetable gardens, which supports the accessibility of healthy fresh foods. These findings may be linked to the implementation of the Integrated Nutrition Program and the National Food and Nutrition Security Plan to reduce food insecurity, which are also national policies that are aligned with the obesity strategy. There is evidence to support home gardening as a means to increase fruit and vegetable consumption, with gardeners less likely to be obese (Kegler et al., 2020). Several civil society organisations have been playing an active role in advocating strategies to address long term food security. There are several initiatives/projects in different provinces that have reported an increase in community gardens as an effort to increase food availability and to reduce household food insecurity (Carstens et al., 2021).

However, in a recent scoping review on the impact of community gardening in Kenya and South Africa, researchers found that reports were mostly cross-sectional in design, with limited results on health impact, unable therefore to properly investigate causal relationships (Hutton et al., 2021).

The National Food Security and Nutrition Plan was used as an example of a successfully developed plan, although implementation is ongoing. Respondents from industry referred to work done by industry on product reformulation, as a success in addressing obesity.

In relation to **goal 3** *(increase percentage of the population engaging in physical activity),* stakeholders from the provincial level informants and health professionals' groups reported success in particular at workplaces. Walk, run, or outside gym activities in communities were also reported by health professionals.

Key informants reported a success related to **goal 4** (*support obesity prevention in early childhood*) as the leadership of the Schools and Child Health cluster within NDoH in implementing the "Side-by-Side" campaign. Health professionals agreed that campaigns driven by NDoH were successful and mentioned the breastfeeding programme at maternity departments as a successful intervention.

Health professionals stated that a multidisciplinary approach is a key success factor, while others believed that individualised diet plans contributed to their success with obese patients, in particular in higher socio-economic groups. They also reported success in screening for obesity and referral for treatment.

Key informants from NDoH, provincial level informants, academics and health professionals reported several examples of successful initiatives to *communicate with, educate, and mobilise communities* (**goal 5**). These included communication during National Nutrition Week and World Obesity Day, nutrition education by dietitians, health awareness days and social marketing activities. Stakeholders from interested parties mentioned understanding of consumer behaviour in order to plan nutrition education and understanding of the impact of obesity on other diseases and health care costs as successes.

In relation to **goal 6** (*establish a surveillance system, strengthen monitoring, evaluation and research),* no clear successes were reported. However, one stakeholder reported that relevant indicators in relation to this goal will soon be collected by District Health Information System, although it is not clear which of the indicators would be selected.

6.2.3 Challenges reported by stakeholders

As mentioned in the previous section (6.2.2), ***the sampling methodology used does not allow for frequency analysis and all inputs were therefore grouped into clusters, which produced emerging themes***.

Challenges to the implementation of the strategy largely centred around lack of resources, lack of clear leadership for each action, and lack of a structured M&E plan. Key challenges in the prevention and control of obesity as reported by stakeholders are categorised according to Bronfenbrenner's Ecological Systems Theory (figure 1), which incorporates the social determinants of health.

Socio-economic conditions: People living in poverty eat whatever is most affordable and are not able to make healthy choices. Limited leisure time constraints opportunities to do physical exercise. Political instability and high crime rates in under-resourced areas exacerbate the stressful living conditions and are not conducive to healthy living.

Harmful attitudes and beliefs: Many people believe that exercise and healthy food are only for people who want to lose weight or people who have diabetes or hypertension. Many people associate being overweight with good health and prosperity. There is a common belief that obesity is genetic and that there is nothing that can be done about it. There has been an unhealthy transition from wholesome cultural food to fast food as a result of urbanisation and a culture of over-consuming meat and specifically fire-cooked meat. There is a negative perception about the taste of healthy food and that it is more expensive than other options.

Policy, legislative and regulatory environment: Trade policy is not aligned with proposed legislation such as front of pack labelling. There are also different criteria for warning labels and nutrient claims. It is difficult to monitor the compliance of industry with legislation and regulations. There is a lack of simple, effective, clear messaging aligned across sectors, and "health in all" policies are not realised. Commercial interests appear to overshadow efforts.

Planning and implementation: Plans and interventions are generally not evidence based, and the system is not sufficiently responsive to act on evidence when it is available. An evidence-based approach is made difficult through lack of credible baselines, especially in relation to issues such as dietary intake. The 2015-2020 strategy did not have a champion or driver to coordinate the strategy and ensure implementation. There was little effective cooperation and coordination between the sectors and between government departments. Information was not effectively disseminated and there was a lack of buy-in from stakeholders. NDoH has a high workload, which inhibits participation in more research and related initiatives. Inadequate resources were allocated to implementation, perpetuating a shortage of funding and human resources to render services.

The food system: The food system is not conducive to healthy eating. In the last 20 years caloric content of some fast food has doubled and the average portion sizes for soft drinks tripled (Igumbor, et al; 2021). Unhealthy food is easily accessible, cheap and filling, while healthy options are more difficult to obtain and often more expensive. The relatively short shelf life of fresh fruit and vegetables compared to highly processed food results in street vendors and school tuckshop owners stocking more processed food. The competition for markets among street vendors promotes the selling of cheap, fatty food. Vendors are dependent on demand – if children want sweets and unhealthy food, they have to stock this to make sales.

Lack of physical activity opportunities: The neighbourhood environment is often not conducive to exercise and there is a lack of safe spaces for physical activity. Gym membership is expensive, and most people cannot afford them. Most poor socio-economic areas have high crime rates and no free, accessible facilities. Often there are no public sports fields in the community. Where there are sports fields, or free open gyms, they are not maintained and do not have adequate equipment. The physical space in some communities limits activity. For example, there are often no sidewalks for jogging or walking or community centres or recreational halls.

Mass media and food industry advertising: There is a significant amount of misinformation on social media in relation to nutrition and what constitutes a healthy diet. Industry marketing of fast food and food products is very successful and not always in line with a healthy diet. By contrast, there is inadequate funding available to promote social and behaviour change communication.

Group dynamics and peer pressure: Significant community and peer pressure can result in over-consumption of calorie-rich alcohol and the consumption of unhealthy food. Lack of parental guidance and unsupervised eating among children and peer influences contributes to obesity and overweight in young children and adolescents.

The health care system: Health care facilities do not give patients enough information, specifically in relation to infant nutrition. Obesity screening is not well promoted, and the message is not continuously communicated to the patients at clinic or hospital level or at the community level. Most people do not check their weight regularly. There is also a lack of basic equipment for obesity screening in clinics. Follow up or monitoring to ensure obese clients lose weight is not conducted. BMI measurements and engagements done on a one-on-one basis with patients are time-consuming and often not fully reimbursed by insurance providers. Because of the number of patients at primary level care, the one-on-one engagements are not adequate and cannot cover all patients. There is also a lack of skilled counsellors and a shortage of dieticians and nutritionists in rural areas.

Lack of basic information and education: There is a lack of basic education about the dangers of obesity and the link to noncommunicable diseases, obesity prevention, nutrition, healthy food options, physical activity and healthy lifestyle practices. More people may choose to grow their own vegetables if they have the resources and the correct information. Consumers do not understand what goes into products and the functions of the ingredients. Community awareness programmes on obesity, healthy eating and healthy lifestyle practices are limited. There are no clear, user-friendly dietary guidelines on prevention and control of obesity communicated to people at the community level.

Individual choice: Children prefer to buy sweets and processed food and believe that healthy food doesn't taste good. Patients are often not motivated to follow a weight reduction protocol and there is generally a poor response to counselling. People often make unhealthy food choices; they do not prioritise preparing a healthy meal as opposed to a fast unhealthy meal.

7. Recommendations for the updated national strategy

As for the successes and challenges reported by stakeholders, (Section 6.2.2 and Section 6.2.3), ***the sampling methodology used does not allow for frequency analysis and all inputs were therefore grouped into clusters, which produced emerging themes***.

The review of the 2015-2020 strategy highlighted strengths on which the new strategy should build as well as challenges in both the implementation of the strategy and in addressing the obesogenic determinants, many of which are common across the globe. Key, overarching recommendations were synthesised based on the best practices review and the stakeholder responses. The following recommendations are listed, but cannot be quantified or weighted because the stakeholders were not representative of those affected by the 2015-2020 strategy.

1. ***Ensure alignment*** with relevant national priorities, plans and policies, and with international commitments such as the Sustainable Development Goals, the Global Strategy on Diet, Physical Activity and Health, and the WHO initiative on Ending Childhood Obesity. Other legislation to consider includes National Integrated Early Childhood Development Policy, 2015 (Republic of South Africa, Government Printers) - Chapter 2, subsection 2.1.3 and Chapter 5, subsection 5.2; 5.2.1. National Food and Nutrition Security Plan for South Africa (2018 - 2023).
2. ***Strengthen the theory of change*** to ensure that there is a logical connection between activities undertaken and expected outcomes, which in turn will contribute to the achievement of the overall strategy mission and vision.
3. ***Build on successes*** gained nationally and take into consideration best practices identified globally in the fight against obesity.
4. ***Develop a national implementation plan*** framework, in collaboration with key stakeholders, to guide provinces to develop "province specific plans" in which responsibilities are clearly allocated and responsible stakeholders agree to and commit to the identified actions and report on progress against specific targets.
5. ***Develop a clear monitoring and evaluation framework*** that is accepted by all stakeholders who are committed to participating in the collection of relevant and targeted data. Provinces should in turn develop M&E plans that are relevant to the province.
6. ***Identify resources required to implement the plan.*** At the provincial level, provinces would identify resources to implement the province specific plans. Resource allocation should include those required to ensure that the strategy can be effectively implemented, monitored and evaluated.

8. Conclusion

The strategy sets forth the intent of the NDoH to improve the quality of life of South Africans through creating an environment that promotes healthy eating and physically active lifestyles for the prevention and control of obesity. This was to be achieved through involvement of different government sectors and other stakeholders at different levels of implementation (national, provincial and local level). However, the absence of a dedicated individual or unit to drive the strategy, a lack of commitment from all relevant sectors, and a lack of human and financial resources meant that not all the planned activities were effectively carried out. Lack of relevant indicators to monitor the implementation of the strategy meant that the extent to which objectives were achieved is unclear as

is the identification of mitigation actions. Although there has been no measurement of the prevalence of obesity in 2020, it is extremely likely that the target of a 10% decrease in the prevalence of obesity in all age groups by 2020 has **not** been achieved.

The desktop review identified international best practices that could be adopted and adapted for the South African context. The stakeholder engagement identified successes on which the new strategy can build and key challenges that urgently need to be addressed to stem the increasing prevalence of obesity and concomitant noncommunicable diseases.

The challenges identified indicate an urgent need to implement an effective social and behaviour change communication strategy, aimed at educating and enabling communities to take ownership of their health. Micro-systems level issues such as easy access to unhealthy food around schools, exo-system level issues such as the marketing strategies used by the industry and macro-system level issues such as lack of political will to support the implementation must be written into the updated strategy to catalyse action to address these issues.

Successful implementation of the updated obesity strategy will depend on government and civil society ownership and involvement from the design phase through to implementation and evaluation. There is a need to advocate for heightened political commitment for synergistically addressing multiple issues of obesity and physical inactivity. One way that the issue of obesity and healthy lifestyle choices can be highlighted is if all elected politicians included a message about obesity, diet, and physical inactivity in speeches at both local and national levels.

For the updated strategy, the design should clearly state a theory of change and provide evidence to support the proposed actions. There should be details of the cost and allocated budget and suggested responsible agents/persons including an M&E plan with a clear timeline.

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Annexure 1

Best Practices Report (Executive Summary)

The growing burden of obesity

The aim of the best practices report is to establish where and how national obesity strategies have been successfully implemented, with the emphasis on key success factors that can be applied to the South African context. It makes use of scoping review methodology and draws on examples and lessons emerging from both South Africa and other countries around the world. This report has been prepared by the review team tasked by South Africa's National Department of Health (NDoH) with reviewing the 2015-2020 National Strategy for the Prevention and Control of Obesity in South Africa and is the first step in the development of the next National Obesity Strategy for South Africa 2021/2022-2026/2027.

The first part of the report introduces the concept of obesity as an abnormal or excess amount of fat in the body measured by the Body Mass Index (BMI). It then establishes the links between obesity and a wide range of health conditions, most notably non-communicable diseases (NCDs) like cardiovascular diseases, diabetes mellitus and cancer, which account for more than 70% of all mortality worldwide. Obesity can also affect the severity and prognosis of infectious diseases, as evidenced during the COVID-19 pandemic.

Obesity and NCDs are positively correlated, with rising death rates and incidence of comorbidities reported as BMI increases. Conversely, prospective studies have confirmed the increased survival and improved quality of life seen in individuals after metabolic weight loss. While obesity is a growing problem in South Africa and globally, it can be effectively reduced through a combination of the right locally informed interventions and adequate implementation and monitoring arrangements. South Africa has much to gain from reducing obesity in its population and is therefore developing a second generation National Obesity Strategy that builds on the successes, gaps and lessons from the previous strategy (2015-2020) and on the evidence emerging from obesity strategies implemented worldwide.

Specific factors affecting obesity interventions in South Africa

South Africa faces a growing burden of both obesity and NCDs. In 2016, 31% of adult males, 67% of adult females, and 13% of under-5 children in South Africa were overweight or obese. Obesity is particularly challenging as health care systems are faced with increasing numbers of individuals where obesity co-exists with malnutrition, commonly referred to as the overfed but undernourished paradox. While the causes for this increased burden are not different to those faced by other nations of similar levels of economic development, there are some specific factors that make the management of obesity and NCDs particularly challenging in the South African context.

***Urbanisation, the nutrition transition and sedentarism*.** Since the 1990s dietary intakes have shifted from traditional locally available and home-grown food toward increased reliance upon ultra-processed foods and eating away from home, especially in areas experiencing rapid urbanisation. This transition has been associated with higher intakes of fats and oils, protein, and sugar-sweetened beverages and foods. At the same time physical activity decreased and sedentary time increased. The

lack of facilities for physical activities together with crime and insecurity in South Africa is a barrier to engaging in physical exercise.

***Cultural perceptions and obesity normalisation*.** In a qualitative study in Soweto (a setting which has undergone rapid urbanisation and nutrition transition), both men and women reported that they preferred bigger bodies; males linked bigger bodies to wealth and affluence while females associated bigger bodies to beauty, happiness and confidence. Another South African study found that the highest prevalence of obesity among South African adults, stratified by sex and race, was in black African women, and yet this group had a significantly lower self-perception of overweight or obesity than white women, who have a lower prevalence of obesity. Individuals might not seek a solution (weight control) if they do not recognise that a problem (overweight) exists.

***Food insecurity and nutrition education*.** If basic nutrition knowledge and time, cooking space, ingredients, and cooking fuel are lacking, it results in consumption of easily accessible and cheap foods that do not require cooking, such as fast food or sliced bread. In lower- to middle-income and predominantly Black communities, fast food outlets are typically more available than they are in high-income and white communities in urban areas. A study in poorly resourced schools in South Africa found that 22% of learners skipped breakfast, 24% brought a lunch box (mostly with bread) and 57% of learners brought money to school, but tuckshops and vendors in the school environment sold mostly unhealthy foods. Poverty and high food prices were perceived as major challenges for healthy eating. Limited health literacy, defined as the knowledge, skills, and confidence to adopt personal lifestyle changes, was also reported.

***Lack of data*.** Lack of data is a universal challenge for setting targets and monitoring health promotion strategies, and obesity is no exception. BMI is the most common indicator for obesity, but it is resource-intensive to measure, and thus not collected regularly or thoroughly enough to detect geographical and social variations or emerging trends at the local level. Without data it is difficult to evaluate the effectiveness of national obesity strategies, which explains why outcomes of several initiatives are often questioned. Limited data relevant to outcome measures for obesity prevention and management could be found in the SADHS, SANHANES-1, NIDS and the Report Card on Physical Activity for Children and Youth. The annual General Household Survey (GHS) has been identified as a future target survey for monitoring certain obesity-related indicators.

***Lack of research funding*.** The South African Medical Research Council and the National Research Foundation are the biggest research funders in South Africa, yet only one research study on obesity could be found in their latest annual reports.

Approaches and interventions to address obesity

The main report includes a review and discussion of different approaches used in a range of settings to address obesity or nutrition-related challenges. Broadly speaking, most obesity-related interventions fall into three main categories:

- Agentic interventions: These aim to increase individual knowledge or skills to make healthier choices, leaving the environment unchanged. 'Nudge' strategies focus on positive reinforcement and indirect suggestions as ways to influence the behaviour and decision-

making of groups or individuals. An example of an agentic intervention is front-of-package labelling of unhealthy foods to help consumers make better choices.

- Structural interventions: These change the environmental context within which individual behaviours occur, thereby diminishing individual choice. Examples include banning sale of unhealthy foods and sugar-sweetened beverages (SSBs) in schools, or product reformulation to improve the nutrient content of ultra-processed foods.
- Agento-structural interventions: These are situated between the two, as they address structural aspects of environments while requiring a level of individual choice for behavioural change. There are many examples, including infrastructure design to encourage physical activity, fiscal regulations to disincentivise purchase of unhealthy products through increased taxes, or conversely to make healthier products more attractive by subsidising their cost.

All obesity strategies covered in this report emphasize the importance of tailoring interventions according to the local context and culture, as the same interventions have been known to achieve different results across countries. If all practical aspects of implementation are not thoroughly considered, interventions may even have unintended negative consequences for certain population groups, such as a shift from one form of unhealthy consumption to another where a healthy alternative is less easily available, culturally unaccepted, or more expensive.

Examples of specific interventions that have been used as part of obesity programmes around the world are discussed in detail in the report, and include front-of-package labelling of foods, restrictions on marketing unhealthy products to children, improvement in school food standards and options, taxation on unhealthy foods and SSBs, reformulation of ultra-processed foods to improve nutrient contents, retail environment changes such as menu labelling, corporate voluntary efforts, utilising digital technology for weight awareness and management, and programmes for increased physical activity and reduced sedentary behaviour.

Obesity strategies in South Africa and around the world

Reviewers investigated a sample of national obesity strategies and associated reports from several countries in the Asia-Pacific, Latin American, and European regions. The main components and lessons from each of those national strategies are described in the main report. Briefly, the main conclusions emerging from reading across the strategies are as follows:

- **Common interventions.** A range of interventions are utilised in different countries to prevent or reduce adult or childhood obesity. The most common measures include the implementation of population-level interventions, fiscal and commercial policies, and system changes to make it easier and more affordable/attractive for individuals to make healthier lifestyle choices and to decrease access to, or demand for, unhealthy food options. Examples include restrictions on unhealthy food advertising and adding tax on SSBs. Food product reformulation and the addition of easily understood front-of-package labels are often accompanied by reductions of the fat and salt content of processed foods.
- **Challenges and barriers.** National obesity strategy reports from several countries identified barriers to the implementation of specific interventions relating mostly to regulating food products and applying fiscal measures, including pressure and lobbying from the food industry. Likewise, opposition from certain public institutions was reported due to their concerns about the economic and social effects of policies to restrict or fiscally penalise

unhealthy foods. However, the most frequently reported challenges and barriers involved the limited ability/competence by governments or their agencies to implement and enforce public policy. Several reports also referred to the weak or limited support received from civil society to specific commercial or fiscal measures that was often attributed to their lack of awareness about the risks of obesity or their limited understanding of the reasons justifying the adopted measures.

- **Limited evidence on strategy performance and outcomes in South Africa.** Apart from a few noteworthy research reports, we found limited published evidence about the effectiveness of measures adopted in South Africa to reduce obesity. Interventions that focus on individual behaviour and education rather than utilising a broader population-based approach were less likely to be successful. Promising interventions in South Africa include the implementation of a tax on SSBs, which was followed by a reduction in mean sugar intake, reduced sales of taxed beverages, and increased selection of healthier beverages.

The lack of data linked to the implementation of the 2015-2020 National Obesity Strategy is worth noting as part of this review. Our reading of the strategy document and the absence of strategy review information would point to a lack of a systematic, verifiable, costed monitoring and evaluation (M&E) plan combined with the absence of obesity surveillance data, poorly defined M&E responsibilities of the designated departments implementing the strategy, and a lack of funding/budget to support M&E activities.

Lessons for developing the next South Africa national obesity strategy

The most comprehensive review of national obesity strategies identified by the authors of this Best Practices report is the Theis and White (2021) review of 14 UK government strategies either wholly or partially dedicated to tackling obesity, stretching from 1992 to 2020. Their main finding was that most of the least successful policies relied on individuals to make behaviour changes rather than shaping external influences. A second important finding was that policies were largely proposed in a way that would be unlikely to lead to implementation. The following implementation viability criteria were used by the authors:

- Setting a target population
- Stating a theory of change
- Evidence to support the policy proposals
- Details about cost/allocated budget
- Suggesting a responsible agent
- Including a monitoring or evaluation plan
- Setting a time frame for achieving the policy objectives of the strategy

These criteria can be used and adapted to shape the next National Obesity Strategy for South Africa, as follows:

9. Strategy development should involve all stakeholders, allowing for continuous inter-sectoral engagement and speaking with a unified voice.
10. Practical and cost-effective actions need to be identified and prioritised, with responsibilities and financial/human resources for their implementation and regular monitoring clearly allocated.

11. Implementation should be based on clear time frames, well-defined goals, and regular reviews of progress (in the form of agreed actions, committed resources and results).
12. No strategy can claim success or failure unless it is closely monitored, with results recorded and swiftly communicated to all stakeholders (from national to local levels) and the public. Only this approach was found to generate both public accountability and the desired momentum in strategy implementation.

Annexure 2

Stakeholder engagement process and outcomes report

Title of assignment:	Review of the national strategy for the prevention and control of obesity in South Africa (2015-2020) and the development of the new National Obesity Strategy (2022-2027)
Workstream:	NCDs
Management Team:	Ms Rebone Ntsie (Director, Nutrition, NDoH) Ms Maude de Hoop (Nutrition, NDoH) Ms Vimla Moodley (BHPSA) Ms Dianne Morran (BHPSA)
Submitted by:	Review Team: - Prof Thandi Puoane - Prof Herculina Salome Kruger - Dr Ijeoma Peace Edoka: - Prof Makama Andries Monyeki, - Ms Makoma Melicca Bopape, - Dr Jeanne Adele Lubbe Project Coordinator: Dianne Morran External support: Dr Javier Martinez, Chelsea Stefanska
Date submitted:	2021

Contents

Executive summary

The overall vision of the South African national strategy for the prevention and control of obesity (2015-2020) is *"a long and healthy life for all South Africans".* The strategy aims to "empower the population of South Africa to make healthy choices by creating an enabling environment that promotes healthy eating and physically active lifestyles for the prevention and control of overweight and obesity", by means of a multisectoral approach.

The 2015-2020 strategy outlines six goals, focussed on an institutional framework to support inter-sectoral engagement, an enabling environment that supports the availability and accessibility of healthy food choices, the percentage of the population engaging in physical activity, obesity prevention in early childhood, communication and education of communities and a surveillance system, monitoring and evaluation, and research. The purpose of this report is to review the 2015-2020 national strategy for the prevention and control of obesity in South Africa (SA) by engaging with the stakeholders involved in the implementation of the strategy, as well as those who could benefit from implementation of the strategy. Outcomes of the review will be used to develop the new strategy for 2022-2027. Two phases of stakeholder consultation were conducted, but only the results of phase 1 will be reported here.

The first step in the stakeholder engagement process was the development of the review questions. The review team needed to understand the extent to which the strategy achieved its goals and objectives, how they can be strengthened and if the goals have not been achieved, what the challenges were and how they can be addressed. The team also reviewed the success factors for successful execution and what needs to be changed in the updated strategy.

The national strategic plan allocates responsibilities to certain stakeholders to implement aspects of the strategy. The review team engaged with groups of stakeholders who was expected to deliver on the actions in relation to the objectives outlined in the strategy document. Stakeholders were mapped in relation to their involvement in the implementation of the strategy and in relation to how the strategy would impact them. Stakeholders were also identified based on information from the Best Practices Report drafted earlier by the review team. Online questionnaires with structured responses and open questions and focus group discussions (FGDs) were used to explore stakeholder perceptions of the drivers and outcomes of the implementation of the strategy. Questions for each group of stakeholders were formulated by the review team according to the roles of each group of stakeholders.

Eleven groups of stakeholders were identified. Group 1 (key informants) included people directly responsible for implementing and overseeing the national obesity strategy 2015-2020. The Nutrition Directorate within the National Department of Health (NDoH) was the key driver of the strategy. The review team leader conducted a FGD with the Chief Director, Health Promotion, Nutrition and Oral Health, the Director and the Assistant Director, Nutrition, using a FGD guide developed by the review team. Group 2 (National-level secondary informants) from the national government were committed to promote the strategy or had specific roles in the implementation of the strategy. Participants included staff from the Department of Basic Education (DBE), Department of Social Development (DSD), Mental Health and Department of Nutrition. Group 3 (Provincial-level secondary informants) was expected to implement aspects of the strategy at provincial and local levels. Participants included provincial coordinators for Nutrition, non-communicable diseases (NCDs), Health promotion, Primary Health Care (PHC), Mental Health, Youth, Adolescent and School Health, Maternal and Child Health,

and Tuberculosis, HIV and AIDS. Group 4 (Interested parties) included the organisations who work in the field of public health and have an interest in the success of the strategy, such as professional associations, health organisations, and advocacy groups. Group 5 (Academic and research institutions) provided scientific evidence to inform the development of the strategy. This group provided information on the uptake of research and on lessons learnt in relation to their involvement in the strategy. Group 6 members (Industry) are impacted by the implementation of the strategy and could potentially undermine efforts that conflict with their business interests. Engagement with this group was aimed at eliciting information on how they can be brought on board as well as enabling them to participate in the process. Participants included individual organisations as well as the Consumer Goods Council of South Africa (CGCSA). Group 7 (Private sector interested parties) included medical aid scheme representatives with a vested interest in a healthy population and could potentially provide useful implementation support. Group 8 (Health professionals and health care workers) is the group who implemented the 2015-2020 obesity strategy at the health care level and work with obese patients. The group included private sector and public sector health facility professionals, such as physicians, dietitians/nutritionists, nurses, physiotherapists, biokineticists and community health workers. Professional societies disseminated the survey to ensure a good representation across the nine provinces. Group 9 (Community influencers) included educators, community members and councillors. Interviews were conducted face to face, guided by a questionnaire. Group 10 (Local-level food outlets) consisted of tuckshop owners and street vendors from three of the nine provinces (North West, Limpopo and Western Cape). Team members identified tuckshops in their community and interviewed them on a one-on-one basis, guided by a questionnaire. Group 11 (Obese individuals) included obese individuals awaiting an appointment for obesity management at a tertiary hospital in the Western Cape. Patient coordinators in each of the clinics invited patients to participate voluntarily. Engagement with stakeholders from group 2 to 8, as well as from group 11 took the form of on-line self-administered questionnaires.

Quantitative responses from the questionnaires were analysed as frequencies and percentages, enabling identification of the dominant as well as minority perceptions. Qualitative responses to open ended questions were analysed using thematic analysis. Codes were then grouped into categories and categories were grouped into themes. The thematic framework analysis allows the analysis to be guided by the three specific key research questions formulated for this review.

The major challenge for implementing Goal 1 related to the planned legislative framework was the lack of capacity within NDoH. Draft regulations (R429) were formulated, but the regulation does not allow the Minister of Health to regulate marketing of unhealthy foods to children. The legislation of marketing of unhealthy food to children and front of pack labelling (FoPL) have not been implemented. Goal 2 was to **c**reate an enabling environment that supports the availability and accessibility of healthy food choices in various settings. The key respondents reported that the sugar tax was successfully implemented as envisaged in the obesity strategy. The NDoH also introduced measures to limit salt and trans-fats consumption leading to the reduction of sodium and fat content of bread and other processed foods, thereby the availability and accessibility of unhealthy food choices were limited. The DSRAC was responsible for the implementation of Goal 3 of increasing the percentage of the population engaging in physical activity (PA). Physical activity is encouraged on wellness promotion days, and physical activities such as stretching and dancing have been implemented in some government events. Goal 4 was to support obesity prevention in early childhood. An example of successful implementation of this goal is the “Side-by-Side” national campaign which aims to ensure

that all children under 5-years receive sufficient nurturing care for optimal development. Good nutrition, including breastfeeding, is promoted. Health workers and Early Childhood Development (ECD) managers were trained to provide the necessary support, while NDoH provided policies and guidelines and ensured that the provinces had sufficient capacity for implementation. Goal 5 was communicating with, educating and mobilising communities. This goal was achieved through the work done in relation to the annual National Nutrition Week and World Obesity Day. Goal 6 was to establish a surveillance system, and strengthen monitoring, evaluation and research. This goal was not achieved due to this issue that reporting is not prioritised at a national level and provinces have to monitor their own indicators. There is no system for provinces to collate information at a national level, due to the lack of a coordinating structure. Furthermore, the ministerial M&E system does not include the information required to monitor the implementation of the obesity strategy.

The stakeholders rated the extent to which each of the 23 objectives from the 2015-2020 obesity strategy had been achieved. Four of the five objectives that had received the highest average ratings for achievement were linked to maternal and child health, namely optimal breastfeeding promotion, ensuring appropriate complementary feeding, obesity prevention during growth monitoring, and supporting appropriate weight gain and healthy eating during pregnancy.

Challenges focussed on six themes that emerged from the stakeholder responses, namely access to healthy food and physical activity opportunities, education and communication, policies and legislation, planning and implementation, monitoring and evaluation, and the healthcare system.

Recommendations from stakeholders focussed on improved availability and access to affordable healthy foods, improved collaboration, and access to safe and affordable local exercise opportunities. Several stakeholder groups recommended that the obesity strategy must be based on robust research and that stakeholders must be involved during early stages of planning, in order to get buy-in and to allocate responsibility to achieve the goals of the strategy. Other recommendations included enforced FoPL, improved education and communication strategies, and to regulate advertising of unhealthy foods and drinks to children. A clear monitoring and evaluation framework is recommended to improve implementation and monitor progress in achieving these objectives.

List of abbreviations

BF	Breastfeeding
BMI	Body mass index
CAPS	*Curriculum* and Assessment Policy Statement
CHWs	Community health workers
CoGTA	Cooperative Governance and Traditional Affairs
CoPC	Community-orientated primary care
CGCSA	Consumer Goods Council of SA
DALRRD	Department of Agriculture, Land Reform and Rural Development
DBE	Department of Basic Education
DHIS	District Health Information System
DoT	Department of Transport
DPME	Department of Planning, Monitoring and Evaluation
DSD	Department of Social Development
DSRAC	Department of Sport, Recreation, Arts and Culture
DTI	Department of Trade and Industry
ECD	Early Childhood Development
FOPL	Front of package labelling
FGD	Focus group discussion
GBD	Global Burden of Disease
GHS	General Household Survey
HPL	Health Promotion Levy
IDRC	Institute for Development Research Council
LMICs	Low- and middle-income countries
M&E	Monitoring and evaluation
NATO	National Advisory Team on Obesity
NCD	Non-communicable disease
NDoH	National Department of Health
NIDS	National Income Dynamic Study
NIH	National Institutes of Health
NIHR	National Institutes of Health Research

NRF	National Research Foundation
PA	Physical activity
PAHO	Pan American Health Organization
PHC	Primary Health Care
PSA	Public Servants Association of South Africa
SA	South Africa
SADHS	South African Demographic and Health Survey
SALGA	South African Local Government Association
SAMRC	South African Medical Research Council
SANHANES-1	South African Health and Nutrition Examination Survey
SBCC	Social and behavioural change communication
SSB	Sugar-sweetened beverages
TFA	Trans-fatty acids
UK	United Kingdom
UKRI	United Kingdom Research Institute
USA	United States of America
WHO	World Health Organization

List of Tables and Figures

1 Purpose of this document

The National Department of Health (NDoH) is in the process of reviewing and updating the 2015-2020 national strategy for the prevention and control of obesity in South Africa (SA). Outcomes of the review will be used to develop the new strategy for 2022-2027. To ensure that relevant stakeholders are adequately engaged to provide sufficient information for a comprehensive review of the strategy, it is essential that the review team has a clear understanding of the stakeholders involved. Two phases of stakeholder consultation were conducted:

i. Phase 1: Engagement with role players to understand the extent to which they were involved in the implementation of the 2015-2020 strategy, the extent to which they perceive the strategy achieved its goals and objectives, challenges experienced during implementation and success factors for successful execution.
ii. Phase 2: Engagement with role players on whom the updated strategy will have an impact or influence to get input and secure buy-in from them.

This document is a report of the data collected during phase 1.

2 Background

The overall vision of the South African national strategy for the prevention and control of obesity (2015-2020) is:

"a long and healthy life for all South Africans".

The strategy aims to "empower the population of South Africa to make healthy choices by creating an enabling environment that promotes healthy eating and physically active lifestyles for the prevention and control of overweight and obesity", by means of a multisectoral approach.

The 2015-2020 strategy outlines six goals, to be reached by achieving specific objectives, as outlined below:

Goal 1: Create an institutional framework to support inter-sectoral engagement

1.1 Establish a structure to drive and govern implementation

1.2 Advocate for resources from different sectors

Goal 2: Create an enabling environment that supports the availability and accessibility of healthy food choices in various settings

2.1 Promote the development and implementation of a relevant legislative framework

2.2 Ensure that food and beverage products sold are aligned with optimal national and international nutritional standards

2.3 Ensure responsible and ethical advertising and marketing of food by the food industry

2.4 Implement user-friendly food labelling education tool

2.5 Increase access and availability of vegetables and fruits

2.6 Promote healthy eating in different settings

Goal 3: Increase the percentage of the population engaging in physical activity

3.1 Ensure the provision of safe and accessible places for people to engage in recreational activities that promote physical activity

3.2 Promote active transportation

3.3 Promote physical activity in schools

3.4 Promote physical activity- friendly environments in worksites

Goal 4: Support obesity prevention in early childhood (in-utero to 12-years)

4.1 Strengthen and support appropriate weight gain and healthy eating during pregnancy

4.2 Strengthen the protection, promotion and support of optimal breastfeeding to explicitly address obesity

4.3 Ensure appropriate complementary feeding practices to explicitly address obesity

4.4 Ensure explicit focus on obesity prevention in routine growth monitoring in children

4.5 Promote healthy eating and physical activity in early childhood development (ECD)

Goal 5: Communicate with, educate, and mobilise communities

5.1 Develop a communication plan targeting various age groups on healthy eating, regular physical activity and risks associated with obesity

5.2 Create demand for healthy food and environments conducive to physical activity

Goal 6: Establish a surveillance system, strengthen monitoring and evaluation, and research

6.1 Increase access to health screening services

6.2 Monitor and evaluate performance indicators

6.3 Collate and communicate evidence-based information to stakeholders on obesity prevention and management

6.4 Set and implement the research agenda for obesity

The stakeholder engagement process is a key step to ensure that all relevant stakeholders have been adequately consulted and that their insights have been taken into consideration when a health strategy is developed. During the engagement process questions about specific drivers, activities implemented or not implemented, reasons or barriers, and other challenges were asked by the review team. The stakeholders who had clear responsibilities to create the structure, disseminate and/or implement aspects of the strategy were targeted in this process. Questions were formulated according to specific actions identified in the strategy document to achieve each goal or objective.

In the past decade the food systems of many countries have changed in both urban and rural areas due to globalisation of food distribution, technology, and marketing. Economic and social development leads to increased access to supermarkets and other outlets offering processed foods and sugar-sweetened beverages. The need to address food insecurity and hunger without adding to the burden of obesity poses challenges for implementers of nutrition programmes and policies. Stakeholders were identified from groups representing the food supply chain (from industry to local sellers), public health services, academic and research institutions, and other interested parties. Few of the existing South African strategies and programmes to prevent obesity have been reviewed or

evaluated (Popkin et al. 2012; Hawkes et al. 2014). Therefore, the review team tried to engage with a wide spectrum of stakeholders, with a view to obtain their views on what should be included in the revised obesity strategy. Similar methods were applied in reviews where stakeholder views on the feasibility, sustainability, and efficacy of strategies or programmes were surveyed (Lagisetty et al., 2017). Hawkes et al (2014) followed a similar approach when they reviewed the obesity strategy of the United Kingdom (UK) and used semi-structured interviews with 40 stakeholders involved in the development and implementation of that strategy. They applied a thematic framework in the analysis of the results.

3 The stakeholder engagement process

3.1 Phase 1: Stakeholder engagement for the review of the 2015-2020 strategy

3.1.1 Development of the review questions

To assess if the national strategy for the prevention and control of obesity in South Africa (2015-2020) had the desired outcomes, the review team needed to understand the extent to which the strategy achieved its stated goals and objectives. If the goals and objectives were achieved, it is important to understand how they can be strengthened and if not, how they can be addressed. The overall research question is therefore:

> *Did the national strategy for the prevention and control of obesity in South Africa (2015-2020) achieve its stated goals and objectives? For each goal and set of objectives:*
>
> - *If yes, how can it be strengthened?*
> - *If no, what needs to be done or changed? Should new or different objectives be identified?*

The national strategic plan allocates clear responsibilities to certain stakeholders to implement aspects of the strategy. Specific actions were identified in the strategy document to achieve each goal or objective. The review team engaged with each player who was expected to deliver on the specific actions in relation to the objectives, as outlined in the strategy document. The review team engaged with stakeholders to understand:

- If the action was taken
- What were the challenges or blockages in undertaking the action/activities?
- What were the success factors for successful execution?

To recommend changes to update the strategy, the review team had to understand from key interested parties and implementers of the strategy:

- What should be done differently to ensure that the strategy achieves what it intends to achieve?

In the execution of the review, the review team made efforts to perform the engagement process according to the Protection of Personal Information Act (POPIA).

3.1.2 Stakeholder identification

A purposeful sampling strategy with wide variation was adopted to capture a breadth of perceptions from individuals involved in the development and implementation of the 2015-2020 strategy. Stakeholders were mapped in relation to their involvement in the implementation of the strategy and in relation to how the strategy would impact or influence them. Stakeholders were also identified based on information from the Best Practices Report. They were analysed according to a power/influence-interest matrix to help to determine broad groups and to develop specific, focused, and appropriate tools for each group as shown in Figure 1. The mapping will also inform the updated strategy in relation to how to engage with the different groups of stakeholders.

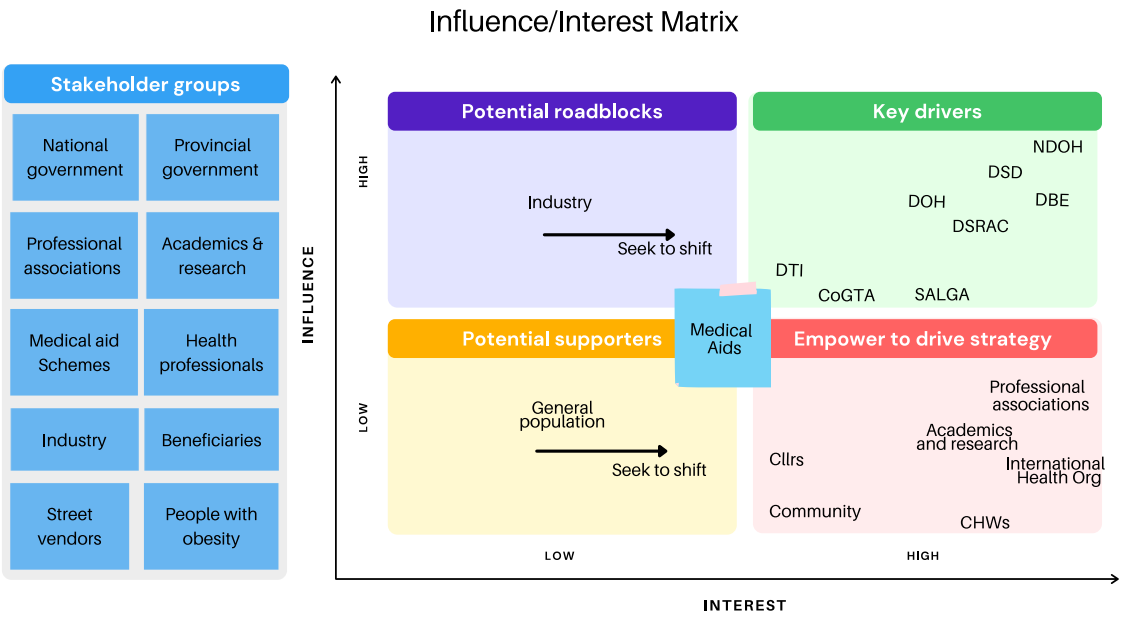

Figure 6: Power/influence-interest matrix

3.1.3 Stakeholder engagement plan and tools

In-depth, semi-structured, one-to-one interviews, online questionnaires with structured responses and open questions, and focus group discussions (FGDs) were used to explore stakeholder perceptions of the drivers and outcomes of the implementation of the strategy. Broad questions for each group of stakeholders were formulated by the review team based on the Obesity Strategy (2015-2020), according to the roles of each group of stakeholders. Questionnaires were refined and finalised during group sessions of the review team and international experts, facilitated by the project coordinator. Participants were informed that their responses would not be used to identify them.

The following broad groups were identified:

1) **Group 1: Key informants**. These were the people directly responsible for implementing and overseeing the national obesity strategy 2015-2020. They can, therefore, be considered the key drivers and implementers. The National Department of Health (NDoH) was the lead organisation and the Nutrition Directorate the key driver. The strategy was housed in the Nutrition Directorate, although at a late stage in the 5-year cycle. It was expected that the participants in this engagement would have a high-level understanding of the extent to

which each of the goals or objectives were achieved and what the success or challenges in relation to each of the goals were.

The initial engagement was held as a focus group discussion during the first phase of stakeholder engagement with this directorate and participants consisted of the Chief Director, Health Promotion, Nutrition and Oral Health, the Director and Assistant Director, Nutrition. The FGD was led by the chairperson of the review team and facilitated by the project manager. A FGD guide was developed by the review team according to standard FGD procedures (Krueger, 2002). The discussions took about 55 minutes and were recorded. At the start of the discussion the facilitator explained the purpose of the discussions, and the goals of the strategy were projected on the screen. The discussions were conducted in English and were recorded and transcribed after the meeting and notes were checked by both the chairperson and the facilitator.

Tool: Interviews and focus group discussion focussed around four questions:

- What were the main successes of the strategy?
- What were the challenges in implementing the strategy successfully?
- In relation to each of the goals, what would you consider to be the main success and the main challenges?
- What do you think are the key elements that must be included in the updated strategy? Please provide recommendations.

Probes for additional information or clarifications were introduced where needed. This method of data collection was selected since it allowed the review team to explore participants' perceptions about successes and challenges of the strategy according to open questions, rather than a tool with a predetermined structure.

2) **Group 2: National-level secondary informants**. This group from the national government either expressed a commitment to promote the strategy or had specific roles in the implementation of certain aspects of the strategy. Initial engagement with this group took the form of an on-line self-administered questionnaire. The review team followed up with emails or one-on-one interviews if clarity was required. Participants included staff from the Department of Basic Education (DBE), Department of Sport, Recreation, Arts and Culture (DSRAC), Department of Social Development (DSD), Department of Trade and Industry (DTI), Department of Agriculture, Land Reform and Rural Development (DALRRD), Department of Planning, Monitoring and Evaluation (DPME), Public Servants Association of South Africa (PSA), Department of transport (DoT), Cooperative Governance and Traditional Affairs (CoGTA), and South African Local Government Association (SALGA).

   Tool: Self-administered online questionnaire. See: https://forms.gle/PeZxHt81cgbUxN7C8

3) **Group 3: Provincial-level secondary informants**. This group was expected *to implement aspects of the strategy at provincial and local levels*. Similar to their national-level counterparts (key informants in NDoH), initial engagement with this group took the form of an on-line self-administered questionnaire. Email reminders were sent to participants to submit the questionnaires and participants were invited to submit any additional inputs via email. Participants included provincial coordinators for: Nutrition, non-communicable

diseases (NCDs), Health promotion, Primary Health Care (PHC), Mental Health, Youth and adolescent and school health, Maternal and Child Health, tuberculosis (TB+, HIV and AIDS, and community health workers (CHWs).

Tool: Self-administered online questionnaire. See: https://forms.gle/UU7zajQ9dk8vZBaN8

4) **Group 4: Interested parties**. These are the organisations who work in the field of public health and have an interest in the success of the strategy. Organisations included professional associations, health organisations, and advocacy groups[6]. This group provided insight into the extent to which the strategy has informed and supported the work that they do and provided valuable information on how the strategy can be strengthened. If any organisations had a specific role to play in the strategy implementation, they provided further information on lessons learnt from their involvement.

   Tool: Self-administered online questionnaire. See: https://forms.gle/Yz9CnskFoViwS31x9

5) **Group 5: Academic and research institutions.** These organisations provided *scientific evidence to inform the development of the strategy*. According to the 2015-2020 strategy they were tasked to provide evidence which could be used to influence policy related to sugar-sweetened beverages (Objective 2.1)[7], evidence which could be used to influence policy related to the percentage of the population engaging in physical activity (Goal 3)[3] and were consulted in the development of the research agenda for obesity (Objective 6.4).[4] Partnerships between government, academic and research institutions were planned to be established to *identify priority research areas* and to monitor the impact of the proposed interventions[5]. This group provided information on the uptake of research and on lessons learnt in relation to their involvement in the strategy.

   Tool: Self-administered online questionnaire. See: https://forms.gle/h8EG4tnctD6tiYvaA

6) **Group 6: Industry.** These organisations are *impacted by the implementation of the strategy* and could potentially undermine efforts that conflict with their business interests. Engagement with this group was aimed at the dual effect of eliciting information on how they can be brought on board as well as enabling them to participate in the process. Participants included individual organisations as well as the Consumer Goods Council of South Africa (CGCSA), which has member organisations. Engagement, therefore, included opportunities for this group to express opinions and to allow for external input from vested interest perspectives.

   Tool: Self-administered online questionnaire. See: https://forms.gle/53nZvzX2ygc5erH66

7) **Group 7: Private sector interested parties.** Medical aid schemes have a vested interest in a healthy population and *could potentially provide useful implementation support*. Manufacturers of health tracking devices were also regarded as useful partners. This group has been included to explore this potential.

   Tool: Self-administered online questionnaire. See: https://forms.gle/wg1umEBYPWHb9iYb6

[6] See appendix for list of organisations

[7] National strategy p35, 3 National strategy p39 4 National strategy p49 5 National strategy p49

8) **Group 8: Health professionals and health care workers.** This is the group who implemented the 2015-2020 obesity strategy at the primary health care level and who regularly see obese patients. The group included private sector and public sector health facility professionals, such as physicians, dietitians/nutritionists, nurses, physiotherapists, biokineticists and community health workers. Professional societies and provincial Departments of Health, Social Development, Basic Education and Local Government were expected to disseminate the survey to ensure a good representation across the nine provinces and across rural, semi-urban and urban areas. The same questionnaire was used for face-to-face interviews and on-line responses.

   Tool: Administered in-person or online questionnaire. See: https://forms.gle/ZhPZCudD8wKsQcDP9

9) **Group 9: Community influencers.** This group included educators, community members and councillors. Community health workers in each of the nine provinces were asked to identify councillors in their area who were invited for a telephone or face to face interview. In Limpopo, North-West and Western Cape provinces, community health workers were asked to invite community members who attend a support group they facilitate, and an interview was arranged either telephonically or face to face, guided by a questionnaire. An on-line questionnaire has been prepared, which where possible was disseminated, although it was envisioned that this group would respond best through in-person interviews. A number of respondents were interviewed face to face by the review team members after which the respondent's answers were inputted into the questionnaire and submitted online. If needed, focus group discussions will be held after the analysis of the on-line/face to face surveys have been analysed.

   Tool: Administered questionnaire. See: https://forms.gle/j5JRN2xfTCe2AHHb6

10) **Group 10: Local-level food outlets**. This group consisted of tuckshop owners and street vendors. In three of the nine provinces (North West, Limpopo and Western Cape), team members identified tuckshops in their community and secured the contact details of tuckshop owners. An interview was conducted on a one-on-one basis. The review team members also identified a convenience sample of street food vendors in their area for face-to-face interviews guided by a questionnaire, which the review team submitted on-line.

    Tool: Administered questionnaire. See: https://forms.gle/sWUrTAsxFCiFrD3G7

11) **Group 11: Obese individuals.** This is another target group for the strategy and included obese individuals awaiting an appointment for obesity management at a tertiary hospital in the Western Cape. Only patients with a BMI > 35 and an associated obesity related comorbidity, or patients with a BMI > 40 are referred for obesity management. Completion of the survey was anonymous and not obligatory. Patient coordinators in each of the clinics invited patients to participate voluntarily.

    Tool: Self-administered online questionnaire. See: https://forms.gle/T4BzWaMbWVKtjsc89

All self-administered online questionnaires were developed on google forms and sent as a link via email to the selected stakeholders. Questionnaires to government employees were accompanied by a letter of introduction by Directors of the Department of Health, while questionnaires to non-government stakeholders were accompanied by a letter of introduction by the Director of Health

Promotion, Nutrition and Oral Health. An introductory statement and invitation were included in the email message and responses could be submitted online. Online questionnaires were estimated to take 10-30 minutes to complete. In cases where stakeholders could not be accessed through on-line questionnaires, questionnaires were administered by members of the review team during face-to-face interviews, and they captured the responses online.

3.1.4 Analysis of the stakeholder response data

3.1.4.1 Analysis of questionnaires

Table 1 shows the number and percentage of stakeholders per group who were approached and who responded to the invitations to complete questionnaires. Quantitative responses from the questionnaires were analysed as frequencies and percentages in figures, enabling identification of the dominant responses and perceptions as well as minority perceptions. Qualitative responses to open ended questions were analysed using thematic analysis. The data was coded independently by two team members for each group of stakeholders, using the inductive thematic analysis approach (Krueger & Casey, 2000). Each coder independently identified codes for all open question response transcripts. These coded transcripts were then discussed by the two coders and then confirmed with the review team until consensus was reached on codes. Codes were then grouped into categories and categories were grouped into themes. The thematic framework analysis allows the analysis to be guided by the three specific key research questions formulated for this review (3.1.1). Hawkes et al (2014) followed a similar approach in reviewing the obesity strategy of the United Kingdom and applied a thematic framework in the analysis of the results.

Table 1. Response rate of stakeholders to the invitations to complete questionnaires per group

Group	Description	Number invited	Number responded (%)
1	Key Informants from National Department of Health Nutrition Directorate	3	3 (100%)
2	National-level secondary informants from national government with specific roles in the implementation of aspects of the strategy	10	8
3	Provincial-level secondary informants: implementers at provincial and local levels	16	14 (88%)
4	Interested parties (professional associations, health organisations, advocacy groups)	22	22 (100%)
5	Academic and research institutions who provided scientific evidence to inform the development of the strategy	28	16 (57%)
6	Industry: organisations that are impacted by the implementation of the strategy	14	14 (100%)
7	Private sector interested parties with a vested interest in a healthy population (medical aid schemes)	8	6 (75%)
8	Local-level health professionals who implemented the 2015-2020 obesity strategy in health care settings:	3415	179 (5.2%)

	Clinicians: 14/455, Dietitians and Nutritionists: 58/1440, Biokineticists: 90/1499, Nurses: 13/13, Other professionals and health workers: 4/21		
9	Community influencers who may benefit from implementation of the obesity strategy	59	59 (100%)
10	Local-level food outlet managers	25	24 (96%)
11	Obese individuals as target for the obesity strategy	133	51 (38%)
	Total	**3733**	**396 (10.6%)**

3.1.4.2 Analysis of the FGD

Data collected from the key informant FGD (stakeholder group 1) were transcribed and summarised according to the questions asked under each goal of the strategy. The responses obtained from stakeholders collected via the FGD were analysed using thematic analysis. After the FGD session the team members present had a debriefing session where notes were compared (Krueger, 2002). The data was transcribed verbatim. The data was then coded independently by two team members, using the inductive thematic analysis approach (Krueger & Casey, 2000). Each coder independently identified codes for all focus group transcripts and interview questions. These coded transcripts were then discussed by the two coders and all members of the review team until consensus was reached on codes. Codes were then grouped into categories and categories were grouped into themes. The thematic framework analysis allowed the analysis to be guided by the four specific questions for group 1 stakeholders (key informants).

Outcomes were presented to stakeholders for validation and further inputs before finalising the review outcomes and the updated strategy.

3.2 Phase 2: Stakeholder engagement for inputs to the updated strategy

Data from the best practices review and stakeholder engagement will be analysed and collated. The review team will then review the responses to determine if additional information is needed to support or clarify some of the responses. The team will purposely select relevant stakeholders and engage them in interviews and FGDs to explore issues that were raised on the online surveys and need further clarification. The stakeholder groups will remain largely the same as those for Phase 1 of the stakeholder engagement process. The review team will conduct meetings with groups of stakeholders, specifically with groups where the review team has not had sufficient input, to get agreement on recommendations and main actions, as well as inputs on further recommendations. The challenges, successes and proposed actions will be presented to NATO for further input. The review team will then present the findings of the phase 1 stakeholder engagement process, for validation and amendments and present the proposed updated strategic framework for discussion and inputs in a workshop, attended by representatives of all stakeholder groups. The review team will form task teams with stakeholders to refine the framework and produce an implementation plan accepted by relevant stakeholders. The review team will use this information to develop the first draft of the new national strategy for obesity.

3.3 Roles of the review team members

The review team leader conducted the focus group discussions. All team members were involved in the development of the stakeholder engagement plan, the FGD and questionnaires. Three team members interviewed tuck-shop owners and street vendors in their home cities and submitted the responses via on-line questionnaires on behalf of the respondents.

3.4 Results of the interviews and questionnaires

Awareness of the 2015-2020 obesity strategy was assessed among six different stakeholder groups from interested parties, academic institutions, industry, local level beneficiaries, health professionals, and representatives of medical aid schemes. The group from academic institutions reported the highest level of awareness and utilisation of the strategy, while local level beneficiaries reported the lowest level of awareness. It was insightful that respondents from industry reported a higher level of awareness than health professionals and stakeholders from medical aid schemes, who reported that they were involved in the management of obesity. The results are shown in Figure 2.

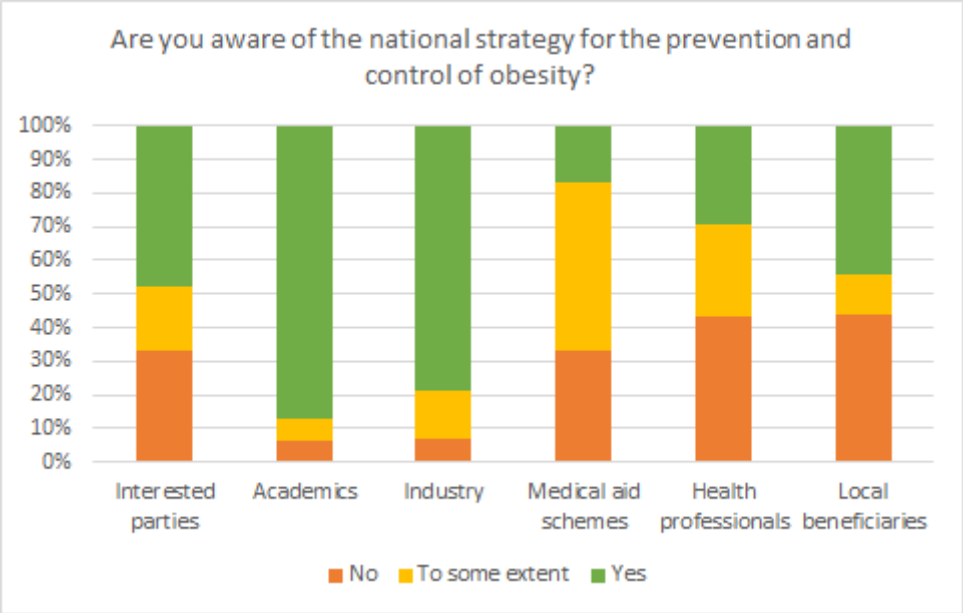

Figure 2. Awareness of the 2015-2020 obesity strategy among six groups of stakeholders (% of respondents)

Stakeholders expressed their perceptions of what worked and what did not work in the 2015-2020 strategy. The list of 23 specific objectives from the 2015-2020 obesity strategy was presented to three stakeholder groups, namely the national- and provincial-level secondary informants and the interested parties group. They were requested to rate, in their perception, the extent to which each objective had been achieved or not on a scale from 1 to 5 where 1=very poor and 5=very good. The results are shown in Figure 3. The provincial-level secondary respondents were the most optimistic, rating 10 of the objectives as average 3 or above, whereas respondents from the interested parties' group (organisations who work in the field of public health and have an interest in the success of the strategy) did not perceive that any of the objectives had been achieved. The top five most highly rated (on average) objectives were the following:

1. Strengthening the protection, promotion and support of optimal breastfeeding to explicitly address obesity (average score 3.09)
2. Ensuring appropriate complementary feeding practices to explicitly address obesity (average

score 2.78)

3. Ensuring explicit focus on obesity prevention in routine growth monitoring in children (average score 2.69)
4. Increasing access to health screening services (average score 2.68)
5. Strengthening and supporting appropriate weight gain and healthy eating during pregnancy (average score 2.67)

The most poorly rated objective was "Setting and implementing the research agenda for obesity" (average score 1.65), followed by "Promoting active transportation" (average score 1.71).

Figure 3. Specific objectives from the 2015-2020 national obesity strategy that have been achieved according to the responses of national and provincial level secondary informants and the interested parties' group (average of responses on scale of 1-5 where 1=very poor and 5=very good)

Results by stakeholder groups are summarised below.

3.4.1 Group 1: Key Informants

Three key informants were invited and all three participated in the focus group discussion. These stakeholders were from management positions in NDoH and considered to be directly responsible for implementing and overseeing the strategy and were, therefore, the key drivers of the strategy. Their responses are presented according to the six goals of the 2015-2020 national obesity strategy.

Institutional framework to support inter-sectoral engagement

It was noted that it was difficult to get commitment from people outside of the National Department of Health (NDoH), largely because a dedicated coordinator to ensure establishment of structure was not identified. Limited capacity, in general, within the department constrained the implementation

and management of the implementation of the strategy. It was only within the last year of the cycle that the Nutrition Directorate housed the strategy, placing a heavy load on the Chief Director for Nutrition. The framework was, in effect, structured informally and in an ad hoc fashion. The most concerning challenge was that this structure was also responsible for ensuring that monitoring and evaluation (M&E) of the strategy were undertaken, particularly in the absence of a clear, explicit M&E and strategy review plan. As a result, M&E did not guide implementation, so it was -and still is- unclear what aspects of the strategy worked better or worse and why. The implementation of the strategy was under-resourced and the budget was allocated to other priority areas. There was also a 40% vacancy within the department that could not be filled.

Enabling environment that supports availability and accessibility to healthy food choices in various settings

According to the respondents, a sugar tax was successfully implemented and the health promotion levy (HPL) was 'a huge success', especially because the National Treasury bought into the process.

These findings were supported by those of Stacey, et al, 2021, who reported a reduction in the sugar, calories, and volume of SSB purchases after the announcement and introduction of South Africa's HPL. Data on monthly household purchases was collected among a total sample of 113653 South African households from all nine provinces to obtain per-capita sugar, calories, and volume of taxable and non-taxable beverages purchased before and after the HPL announcement and implementation.

Mean sugar consumption from taxable beverage purchases fell from 16.25 g/capita per day (95% CI 15.80–16.70) to 14.26 (13.85–14.67) from the pre-HPL announcement to post-announcement period, and then to 10.63 g/capita per day (10.22–11.04) in the year after implementation. Mean volumes of taxable beverage purchases fell from 518.99 mL/capita per day (506.90–531.08) to 492.16 (481.28–503.04) from pre-announcement to post announcement, and then to 443.39 mL/capita per day (430.10–456.56) after implementation.

Although the HPL was perceived as a huge success in collecting South Africa's Revenue funds, according to the report published by the BUSINESS INSIDER South Africa on the 3rd July 2021, less than 1% of the R8 billion collected was redirected to health promotion activities. According to the National Treasury plan, the money went straight to the South African Revenue Services and only a small percentage was allocated to the budget for the NDoH.

The NDoH also introduced measures to limit salt and trans-fats consumption leading to the reduction of sodium and fat content of bread and other processed foods. However, although regulation usually increases compliance, it is difficult to assess the compliance of food manufacturers in South Africa with the said regulations, due to lack of monitoring capacity; there are always loopholes that can be exploited that result in non-compliance.

In the opinion of respondents in this group, the major challenge for implementing a legislative framework was the lack of capacity within NDoH. There also appears to be a lack of understanding, or a misinterpretation, within NDoH of their own legislative frameworks or powers. For example, the current draft regulation (R429) does not allow the Minister of Health to regulate marketing, which has had a knock-on effect of delaying legislating marketing of unhealthy food to children and front of pack labelling (FoPL). Limiting access to unhealthy food, therefore could not be legislated; it was just negotiated and NDoH did not achieve full compliance from all retailers.

With regard to alignment with national and international nutrition standards, some manufacturers have reduced sugar content in their products, but not all. There is a substantive lack of reporting from the industry, coupled with limited monitoring of product content by the assigned government departments/agencies. For example, there has been some agreement from some companies not to oversize food portions, but not all companies have either adhered to such agreement or actually complied with it.

Some work has been done with industry and retailers to make healthy food available, for example, by removing unhealthy snacks at supermarket aisles, but this has also been based on voluntary efforts, so only some companies have done this. The respondents were of the opinion that profit drives the private industry decisions and processes. They also stated that some companies take the obesity problem seriously, but this is largely dependent on the ethics and values of each company.

Increasing the percentage of the population engaging in physical activity (PA)

The key informants reported that the DSRAC was largely responsible for the implementation of this goal. No responses were received from DSRAC, but further engagement is planned during phase 2 of the stakeholder engagement. There were no measurable targets set in the National Obesity Strategy 2015-2020 in relation to promoting physical activity in worksites, which meant that this objective was not monitored, reviewed or quantified at any stage in the strategy implementation process. Informants stated that some departments and workplaces did provide physical activity friendly worksites, but this depended largely on political will. Within NDoH physical activity is encouraged on wellness promotion days, and some provinces have physical activity as part of their plans. The informants claimed that some resources had been allocated to this objective, and physical activities such as stretching and dancing have been implemented in some government events.

Supporting obesity prevention in early childhood (in-utero to 12 years)

"Side-by-Side" is a national campaign which aims to ensure that all children under 5-years receive sufficient nurturing care for optimal development. Good nutrition, including breastfeeding, is promoted. The campaign relies on all stakeholders supporting caregivers and pregnant women to work alongside each other. The campaign was reported as successful by the key informants, as health workers and Early Childhood Development (ECD) managers were trained to provide the necessary support and information. NDoH provided policies and guidelines for this campaign and ensured that the provinces had sufficient capacity to implement the campaign. According to the key informants the campaign was led by the Schools and Child Health cluster within NDoH.

However, it was reported that the Child Health Directorate needs to do more work in relation to complementary feeding to ensure and monitor that children actually receive sufficient nutrition in the early childhood development phase. The stakeholders expressed a need for more capacity building and continuous workshops to drive home the messages. A key challenge is that there are no dedicated people to identify violations related to complementary food composition and NDoH has to rely on reactive reporting to address this issue. However, in most cases, once violators are confronted they tend to comply.

Communicating with, educating and mobilising communities

The respondents reported that the work done in relation to the annual National Nutrition Week and World Obesity Day has been very successful. There is a multi-sectoral group working on the messaging and activities for National Nutrition Week. However, the challenge here is that it is difficult to get the

communication materials to the targeted sites on time; there are also budget constraints. Industry is interested in assisting, but NDoH has to avoid them marketing their products - so generally, they are not involved in the formal process. Therefore, all in all, it was perceived by stakeholders that this goal has been partially achieved.

Establishing a surveillance system, and strengthening monitoring, evaluation and research

In the opinion of the NDoH respondents, the main problem in relation to this issue is that reporting is not prioritised at a national level and provinces have to monitor their own indicators, which they may or may not do or verify rigorously enough. In addition, there is not a system for provinces to collate information at a national level, largely due to the lack of a coordinating structure or a national repository for data. Furthermore, there is no clear alignment between the ministerial M&E system and the information required to monitor the implementation of the obesity strategy.

Provinces conduct health screening during provincial health days, but when it comes to weight status within communities, it is very difficult for community health workers (CHWs) to conduct weight and height screening during home visits.

3.4.2 Group 2: National-level Secondary Informants

From a total of 10 secondary informants identified and invited, 8 completed the questionnaire. National government role-players expressed a commitment to promote the strategy and had specific roles in the implementation. Their roles according to the obesity strategy were to (1.1) establish a structure to drive and govern implementation, (1.2) advocate for resources from different sectors, (2.1) promote the development and implementation of a relevant legislative framework, (2.2) ensure that food and beverage products sold are aligned with optimal national and international nutritional standards, (2.6) promote healthy eating in different settings, (3.1.5) strengthen mass participation in physical activity within government departments, (3.4) promote physical activity-friendly environments in worksites, (4) support obesity prevention in early childhood, (5) communicate with, educate and mobilise communities and (6) establish a surveillance system, strengthen monitoring and evaluation. Due to a delay in acquiring an introductory letter from the Director General of NDoH, it was only possible for the review team to question a limited number of government stakeholders during this stage of the stakeholder engagement process mainly from the NDoH stakeholders who were members of the National Advisory Team on Obesity (NATO). The responses of national-level secondary informants on which objectives have been achieved are shown in Figure 3. The main ***challenges*** identified by this group were:

- The absence of a key coordinator to drive the strategy and lack of coordination across the sectors;
- Inadequate involvement of stakeholders from the strategy development phase;
- The strategy was seen as a Nutrition Directorate programme and other programmes within the NDoH, other government departments and society at large did not contribute.

The question: “In your experience so far, what do you think are the key ***success drivers*** or success factors contributing towards successful implementation of the obesity strategy?” was understood in different ways: “what worked in the previous strategy?” and “what should be done to ensure that the

next strategy works?" Because of the different understanding of the question, it is not possible to clearly identify what this group felt was successful in the 2015-2020 strategy.

One respondent stated: "Not much to say on the success as the progress can't be measured easily. Due to silo and lack of coordination."

Other respondents seem to have misunderstood the question and instead gave recommendations for a successful future strategy, such as:

- Evidence-based information;
- Continuously engage with the different sectors, to follow up on actions, targets, share information, take collective actions, communication, community engagement;
- Involvement of all key stakeholders in the initial stage and integration and collaborative efforts towards the same goal, not calling them to implement something that they were not part of nor committed to;
- All of government, all of society approaches.

The question on ***recommendations*** was: "What would you do differently in the 2021/2022-2026/2027 obesity strategy to get a more effective result?" Responses included:

- Include more evidence-based information on different age groups;
- Food labelling in different languages, education on how to interpret labelling;
- Get buy-in of private and public sector and communities with positive key messages, not instructing them what to do but making them involved in taking ownership for their obesity;
- All stakeholders should be on board. Better coordination and accounting structures are much needed. A mid-term evaluation is required to take stock of progress and address gaps opposed to waiting until the end of the set time frame to evaluate implementation.

3.4.3 Group 3: Provincial-level secondary informants

A total of 16 provincial level secondary informants were identified, with 14 responses. Provincial counterparts were expected to implement aspects of the strategy at provincial and local levels. Most of the respondents reported that they were involved in the prevention of obesity during early childhood (77%), or communication and education of communities (62%). Most respondents could not rate the extent to which the strategic objectives of the 2015-2020 strategy were achieved (replied "Not applicable/I was not involved" rather than the 1-5 scale shown in Figure 3), and few rated the objectives as achieved well or very well, as seen in Figure 3.

Among the key ***challenges*** identified were:

- Lack of political buy-in of the strategy, often expressed as unclear responsibilities for strategy implementation and coordination, with lack of participation or interest from non-affected parties;
- No clear accountability mechanisms;
- Insufficient multi-stakeholder engagement in the design, implementation, coordination and reviews of progress of the strategy;
- Ineffective or absent monitoring and evaluation systems and progress review mechanisms;
- The need for dedicated or ring-fenced funding and a better costing of various proposed interventions that would enable greater focus on value for money;

- Availability of cheap high energy foods and high cost of a nutritious food basket;
- Lack of financial resources to implement the strategy.

One respondent stated: "[Obesity] is not seen as a disease (despite being the root cause of many NCDs), it can't be fixed with a silver bullet (what politicians and senior managers want). It needs persistent hard work and investment from everyone."

Few respondents provided examples of key ***success factors*** from their practice environment. This group reported the following as success drivers:

- Information sharing and communication, in particular during National Nutrition week;
- Implementation of the health promotion levy, implementation of tax on sugar sweetened beverages;
- The National Food Security and Nutrition Plan (although it needs better implementation);
- Promotion of healthy eating through North West on Wellness (NNOW) activities;
- More people engage in physical activity at some workplaces where Wednesdays were dedicated to physical activities.

The ***recommendations*** on what to do differently in the 2021/2022-2026/2027 obesity strategy included:

- Resources (money, HR and commitment) should be allocated to implement the strategy;
- Community consultation and stakeholder engagement from the beginning;
- Coordination between national, provincial and local implementation levels;
- Different media platforms must be used with monthly messages for the public linked to Strategy; mass awareness campaigns;
- Clear and concise guidelines, a clear indication of provincial programmes that need to implemented and monitored;
- Consistent supply of good workable scales in health facilities;
- Focus on low-cost physical activity recreational spaces and activities for low- to middle-income communities (coordinated by Dept of Sport, Recreation, Arts and Culture);
- Promotion of exclusive breastfeeding by supporting the working mother, increasing child-friendly workspaces and maternity leave benefits to encourage exclusive breastfeeding and appropriate child feeding practices;
- Strengthen physical activity at community level and not only focus at the workplace.

3.4.4 Group 4: Interested parties

Participants in this group were drawn from organisations who work in the field of public health and have an interest in the success of the strategy, such as professional associations, health organisations, and advocacy groups. A total of 22 questionnaires were sent and all responded. Among the 22 respondents, a third were not aware of the national strategy for the prevention and control of obesity in South Africa 2015-2020 (Figure 2).

Their roles, as stipulated in the strategy document, included supporting the national government to (1.1) establish a structure to drive and govern implementation and to promote healthy eating in different settings by developing dietary guidelines for prevention and control of obesity. Only one respondent reported being involved in these actions as a Director in a Provincial Health Department,

who participated in the monitoring and evaluation of the performance indicators of the obesity strategy. Further roles were to develop a communication plan targeting various age groups on healthy eating, regular physical activity and risks associated with obesity, to implement strategies for community mobilisation, e.g. community dialogues, campaigns and to create demand for healthy food and environments conducive to physical activity. Five respondents reported being involved in developing a communication plan targeting various age groups on healthy eating, regular physical activity and risks associated with obesity (specific objective 5.1) and four were involved in creating a demand for healthy food and environments conducive to physical activity (specific objective 5.2). Two respondents reported that they provided evidence-based information (specific objective 6.3), one provided education communication materials and developed a lifestyle risk assessment tool for use by their staff, implemented through work plans at their organization. In addition, NDoH endorsed their Healthy Food Endorsement Programme, Heart Mark (in line with specific objective 5.1). Another respondent reported that he was involved in the North West on Wellness initiative for provincial health promotion (in line with specific objective 5.2), whereas 68% did not participate in the implementation of the national obesity strategy.

This group identified the following key ***challenges*** in achieving the strategy objectives:

- Lack of education in the population at large;
- Successful marketing of unhealthy foods and commercial interests overshadowing obesity control efforts; ultra-processed foods are widely available, addictive, and cheap.
- Lack of policy/strategy implementation at scale in every province;
- Inadequate political support and a lack of coordination between government and key stakeholders;
- Lack of resources;
- Little political understanding of how the global food supply system fosters obesity, and little political support to change this.
- Excessive focus on regulatory measures rather than education;
- Lack of recognition of obesity as a chronic disease with multiple complications; and
- Lack of simple effective messaging aligned across sectors.

This group identified a few key ***success factors*** in the implementation of the 2015-2020 national obesity strategy, such as:

- Minimal advocacy to some extent; and
- Tax on SSBs as a component of the 2015-2020 obesity strategy has been implemented.

This group made ***recommendations*** on what could be done differently to get a more effective result in the prevention and reduction of obesity, including:

- Ward-based outreach teams to focus on overweight and obesity in communities;
- Workplace-based health promotion programmes;
- Capacitating primary care providers with skills in brief behaviour change counselling;
- Nutrition education of all relevant industries, including health professionals, food outlets and transport;
- Try drawing on the very considerable marketing skills of the food industry to spread the message;
- Incentives for healthier lifestyle;

- Public figures and government leaders to set a better public example;
- Understanding consumer behavioural issues in order to develop suitable nutritional education programmes and wellness programmes that focus on individuals;
- Support from NDoH, consistent leadership on driving efforts and implementation, implementation commitments and performance measures related to implementation across ministries;
- Multi-sectoral policy alignment;
- More involvement of civil society and a set of clear and realistic goals and activities coupled with earmarked funding
- Incentivising implementation through performance measures (indicators);
- Political support, public buy-in, investment from all sectors;
- Massive media campaigns highlight not only benefits but also the easiest ways to achieve desired outcomes.

Other recommendations were to provide a tax incentive for maintaining healthy body weight over a given tax period, to reduce stigma and to consult scientists who are not captured by industry.

3.4.5 Group 5: Academic and research institutions

From the 28 invitations sent to academics from 11 universities and research institutions, 16 academics responded. This group was expected to provide scientific evidence to inform the development of the strategy and were tasked with providing evidence which could be used to influence policy related to sugar-sweetened beverages and with developing the research agenda for obesity in partnership with the government. Their roles according to the 2015-2020 strategy were to (2.1) promote the development and implementation of a relevant legislative framework in collaboration with the National Department of Health, to (2.4) implement user-friendly food labelling education tool, and to (6.4) set and implement the research agenda for obesity. Three of the 16 respondents reported being formally involved with development and implementation of a relevant legislative framework or implementing the food labelling education tool, but most reported being involved in obesity-related research only. Overall, awareness of the 2015-2020 obesity strategy was good in this group (Figure 2).

Respondents indicated participating in the following objectives in relation to the national strategy on obesity as part of their work (top three):

- Promoting healthy eating in different settings (69%);
- Increasing access and availability of vegetables and fruits (44%);
- Setting and implementing the research agenda for obesity (38%);

Most (75%) participants said all objectives are relevant. The following objectives were listed as least relevant:

- Creating a demand for healthy food and environments conducive to physical activity (12%);
- Increase access to health screening services (12%)

A reason for the response was demonstrated by the following direct citation: “The most important issue is the high unemployment rate, the relationship between food insecurity and obesity as well as cultural norms regarding a healthy weight; the majority of South Africans are living below the poverty line.’’

This group reported being involved in research related to determinants of obesity, including context-specific determinants and drivers of obesity among SA adults and children, in particular obesogenic food environments and healthy food choices. Research aligned with government priorities in relation to prevention and management of obesity included front-of-pack food labelling, consumption of indigenous vegetables, general fruit and vegetables intake among adults with hypertension, interventions at community level on physical activity and diet, community-driven research and community level advocacy. Research also focused on best buys for obesity prevention, breastfeeding and improved infant feeding practices to prevent childhood obesity. Priority research areas identified in relation to obesity include the influence of diet and physical activity, healthy food options, front of pack labelling, nutrition during pregnancy and early childhood, the impact of marketing unhealthy food to children and strategies to increase consumption of fruit and vegetables including indigenous foods in low-income communities.

Respondents reported that their research was funded by national funders (South African Medical Research Council, National Research Foundation), industry (South African Sugar Association), universities and international funders (European Union, National Institutes of Health, USA, United Kingdom Research Institute, German and Canadian based organisations, International Development Research Centre, Canada, Bloomberg philanthropies, National Institute of Health Research, UK). Respondents had limited direct partnerships with the government, but aligned their research with the National Development Plan. One respondent sent a brief report of their obesity-related research results to the NDoH to inform them about their research. One respondent is a member of the Obesity Management Task Force in KZN under auspices of the Department of Health. One respondent worked with the national Technical Coordinating Committee for Food and Nutrition Security, while another worked closely with NDoH on protection, promotion and support of breastfeeding. Most academics (75%) have referred their students to the national obesity strategy.

Challenges reported by this group included:

- Workload preventing participation in more research and related initiatives, funding, collegial apathy;
- With regards to the front-of-pack food labelling - food industry opposition, potential trade policy issues, the fact that the proposed warning labels and the health and/or nutrient claims have different criteria, the current industry-led and propriety health logos on the market;
- Lack of coordination and drivers of the strategy, as many partners involved, you need drivers and change management strategies to be effective;
- Finding coherence between policy such that resources and activities converge in food environments. We recognise that a policy hierarchy may exist which may offset some health policies against economic growth policies (as an example).

Academics ***recommended*** what could be done differently to get more effective results to address obesity, including:

- Effective collaboration/communication between all stakeholders and coordinated action from multiple sectors in government led by NDoH. The latter should establish a task force for the strategy, identify drivers and ensure stakeholder reporting along with change management of this process;

- Participatory research to identify setting specific obesity determinants, that supports co-designing, co-developing and co-prioritizing intervention programmes that are context- and setting specific;
- More attention to pregnancy weight gain in all antenatal clinics, more nutrition education to mothers of infants on appropriate complementary feeding;
- Accelerating nutrition transition and empowerment of the public to increasingly take responsibility for own health and wellbeing;
- Establishment of national, provincial and local food councils; enforcement of existing marketing policies; nutrition sensitive spatial planning in cities and towns;
- More promotion and guidance to establish community vegetable gardens;
- A focus on structural and regulatory changes within the broader food environment.

3.4.6 Group 6: Industry

From a total of 14 questionnaires sent, all 14 stakeholders from industry responded. Most respondents were in management positions, such as directors, executive officers, or regulatory specialists. Whereas parts of the food and beverage industry can be impacted by the implementation of the strategy and could potentially undermine efforts, its commitment to and compliance with efforts to tackle obesity are essential, hence their inclusion as a stakeholder group. Most of the 14 responses were from food producers (43%) and beverage companies (21%), as well as from retailers, fast food outlets and the Consumer Goods Council of SA (CGCSA). Most respondents were aware of the obesity strategy, and only 1 was not aware (Figure 2). An overwhelming majority (79%) felt that they play a role in the prevention and control of obesity in South Africa, by participating in discussions on food or beverage reformulation (86%), and about the tax of sweetened beverages (50% participated, another 50% participated in a limited way). According to 2015-2020 strategy the roles of the industry, particularly the food and marketing industries, were to:

- (Specific objective 2.2) Ensure that food and beverage products sold are aligned with optimal national and international nutritional standards; Ensure restaurants display nutrient content of menu items; Ensure that quick service restaurants (QSR) include healthy meal options on their menus at competitive prices; National DOH should engage with retailers to reduce exposure to unhealthy foods at point-of-purchase.
- (Specific objective 2.3) Ensure responsible and ethical advertising and marketing of food by the food industry. Ensure that a code and pledge of advertising are developed and adhered to.
- (Specific objective 2.4) Implement user-friendly food labelling education tool: Investigate, test and establish an appropriate educational tool for front of pack labels and meals in restaurants considering low literacy populations.

Respondents reported that they played a role to ensure responsible and ethical marketing of food or beverages, by formulating internal guidelines for Marketing to Children, with prohibition to market to children of 12 years and younger. One respondent reported that they only advertise sugar-free beverages on their menu and promote the option to swap carbonated drinks for water on the menu. A few respondents also reported instituting voluntary product reformulation or industry initiatives.

Respondents also reported playing a role according to objective 2.6: Promote healthy eating in different settings; review and implement nutritional guidelines for all food and beverages sold or

provided in schools. A breakfast cereal company provided breakfast cereal and milk breakfasts to 7million school children in every school, to provide a more nutritious breakfast, combating hunger and possibly preventing them from consuming meals that are more energy-dense, that contribute to obesity. One respondent reported providing nutritious meals and teaching people how to live a healthy lifestyle. They write and present healthy food cooking courses around the country and have worked with companies to train diabetic people what to eat using easy guides in rural areas.

Involvement of one stakeholder is demonstrated by the following citation: “We've helped tens of thousands of people lose weight, manage health and keep weight off... and more importantly avoid the many life-debilitating side effects of obesity and fatty liver disease (plus experience how good food can make you feel and perform in life).” (Witbank area).

Another company offers guidance on portions for their products from packs to recipes and advises on the addition of fruit and vegetables in recipes. They assess their products against an internationally validated Nutritional Profiling System, which measures the healthiness of products. This company claims that 100% of its children's portfolio meets the criteria of the Nutritional Profiling System, and 98% of their net sales come from products that meet the profiling criteria. They launched a Healthier Kids campaign to empower parents, caregivers and teachers to foster healthy behaviours in children and to encourage parents to get their children to eat fruit and vegetables. The same company contributed R1 million towards nutritional content development for Lifestyle Orientation textbooks for high school learners, further strengthening their ties with the Department of Basic Education in South Africa. Other respondents reported that they launched media events highlighting responsible snacking.

One food industry respondent said the Strategy was supported by the private sector because it acknowledged obesity as a complex problem requiring action by a wide range of stakeholders, including industry. While the perception of the Strategy document was positive overall, some respondents voiced criticisms of the content.

> “The Restaurant industry is being regulated to a point where to some extent it affects our creativity or rather stifles it. Creating healthy options also lands up costing more to manufacture and at the end, costs the consumer more - money they don’t have.”

> “... people choose to eat out for celebratory reasons. When they dine out, they are well aware of the foods they are putting into their bodies - we are doing a lot from our side with costs attached to it to ensure we notify and alert the public to what they are eating but the consumers will eat what they want. We find that the healthier items are not ordered so we essentially are ticking boxes but in the end what the consumer wants is something decadent.”

This group identified additional ***challenges*** in achieving the strategy objectives, including fuel poverty, excessive portion sizes, lack of dietary diversity, limited access to nutritionally adequate diets driven by poverty, limited measures to incentivise healthy eating habits, and a lack of practical nutrition education.

Industry stakeholders made ***recommendations*** on what could be incorporated in the updated obesity strategy, including:

- To overcome the challenge of obesity and related NCDs the solution may be found not in more regulations on specific nutrients but rather in addressing total caloric consumption per occasion. In the long term, a focus on portion control could provide a holistic solution for all consumption occasions. A reduction of portion/package sizes for processed foods and restaurant meals would undo the phenomenon of portion distortion and re-educate consumers' perception of a meal's "right size";
- The participation/involvement/contribution of the Health Food Options in developing the updated obesity strategy. In addition, that such strategies take into account other national initiatives and social compacts, such as the Sugarcane Master Plan to which Government, Industries and Labour are signatories;
- Employ a whole food system lens for local challenges that aims to creatively incentivise incremental positive reformulation including incorporation of positive ingredients;
- Nutrient profiling criteria for Marketing to Children or any other criteria for defining high fat/sugar/sodium foods to be aligned with the work being done by the Department of Health on front-of-pack labelling and the WHO guideline on front-of-pack labelling.

3.4.7 Group 7: Private sector interested parties

This group represents private sector parties that are involved in health care, such as medical aid schemes and manufacturers of health tracking devices. Having an interest in contributing to a healthy population, this group could potentially provide useful implementation support.

This is a relatively small group and only 8 questionnaires were sent, of which 6 responses were received. Engaging with this group will most likely require a more concerted effort to reach out to them on a one-to-one basis. Stakeholders referred to the high cost of healthy foods and the lack of knowledge about obesity as ***challenges***. One stakeholder reported that local data to show the benefits of obesity surgery are available.

Recommendations included:

- Partnerships with private companies to drive obesity awareness campaigns;
- The inclusion of obesity surgery as a standard of care in the public sector;
- Training of HCPs about criteria for referral to treatment;
- Support programmes for rural patients;
- A comprehensive disease management programme incorporating all the necessary specialities for holistic care, electronic data capturing and central storage and analytics to measure outcomes in order to show efficacy, effectiveness and a positive return on investment;
- A structure to include satellite clinics to participate in research and data collection on obesity detection and referrals;
- Prioritize education and drive a massive media campaign to create awareness and understanding of obesity. We cannot change people's actions if we have not first educated them on the causes and consequences of obesity as a disease;
- The council for medical schemes should acknowledge the burden of obesity on medical schemes and the NDoH and sanction appropriate restrictions to benefits, delays in elective

surgery where people are able to make changes to their BMI first. This will not only encourage health, but enable spreading of finite resources to a larger segment of the population.

3.4.8 Group 8: Health professionals and health care workers

Most responses were received by means of contact through professional associations (Biokinetics, Clinicians, Dietetics and Nutrition Society), who disseminated the questionnaires to all members on their mailing lists. A total of 3415 questionnaires were sent. The 179 responses from this group were distributed as shown in Figure 4.

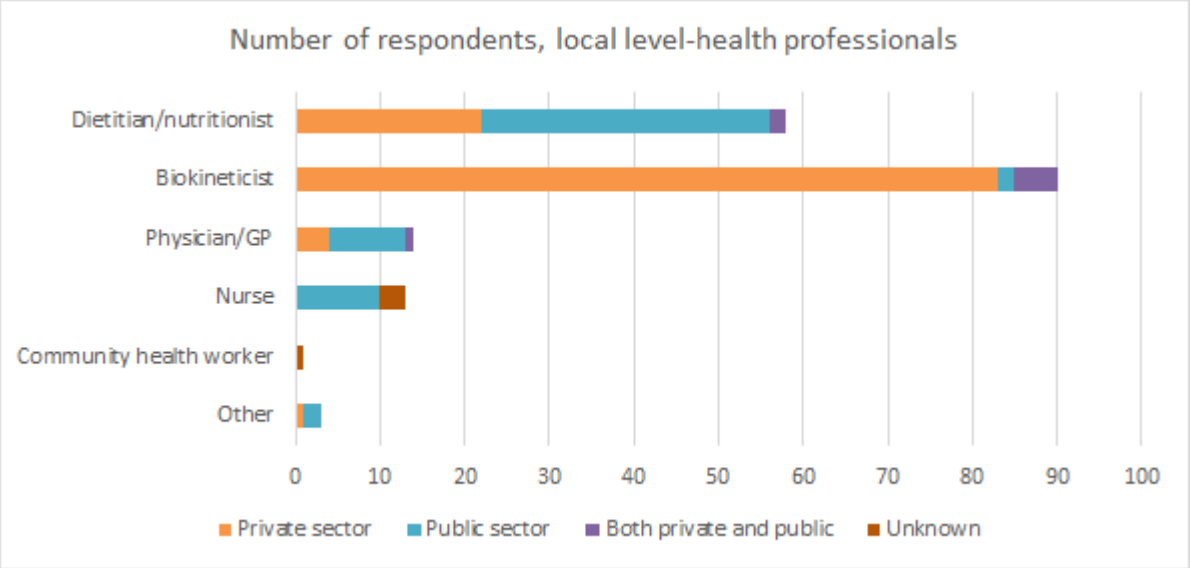

Figure 4: Details of respondents in group 8: local-level health professionals

The vast majority (93%) have received some training on the prevention and treatment of obesity and more than half (53%) received formal training at university or college level, while postgraduate modules (9%), continuous professional development courses (18%) and self-study (14%) were also mentioned. Most respondents (84%) had counselled someone on healthy eating and physical activity to address hypertension and diabetes. Interestingly, one respondent did not think obesity was a problem in South Africa and two were not sure. Awareness of the 2015-2020 obesity strategy was relatively low among this group, compared to other groups of stakeholders (Figure 2).

Key ***challenges*** noted were:

- Lack of resources (time, funding, facilities, staff, medical equipment) to implement the strategy at local healthcare level;
- Impractical guidelines;
- Obesity is not seen as a disease. Health care workers focus more on prevention and management of undernutrition (acute malnutrition). They sometimes take overweight as being healthy, not thinking that it is a health problem.
- Poor follow-up and referral of patients;
- Negative attitudes towards practices/activities that prevent obesity. The establishment of community support groups is a challenge;
- Shortage of dieticians/nutritionists in rural areas;

- Availability and cost of healthy food (variety of fresh fruit and veg). Processed, high-sugar foods are easily available, cheap and consumed in excess;
- Lack of awareness, education, and participation within the community;
- Limited information to health care workers at operational level;
- Lack of affordable or free recreation facilities/fitness clubs, lack of maintenance of sport facilities, lack of awareness in sporting activities, lack of materials in the facilities;
- Lack of safe areas for exercising and group exercise activities.

The following were mentioned as ***success factors*** of the 2015-2020 strategy:

- Breastfeeding programme at maternity departments;
- Campaigns by NDoH;
- Implementation of the sugar tax;
- Community Health Workers were willing to take the strategy on;
- A multidisciplinary team approach to patient care;
- Individualised diet plans contributed to their success with obese patients, in particular in higher socio-economic groups;
- Performance indicators included on District health information system (DHIS) so data is now collected and reported on;
- Worksite, community-based and family-centered approaches.

The following ***recommendations*** were suggested by local-level health professionals for the updated strategy:

- Awareness campaigns through different media channels: talk shows, social media, churches, TV and radio, magazines, billboards and buses/taxis, public promotion from well-respected figures;
- Care from a multidisciplinary team including diet, exercise, medical treatment and behaviour modification should be funded;
- More dieticians, nutritionists, and biokineticists included in the public sector clinics;
- Facilitating access to bariatric surgery and training for bariatric surgeons;
- Training at primary health care level for improved screening, referral, and focus on wellness rather than only sickness care;
- Greater public-private partnerships should be fostered so that Strategies and Guidelines such as the National Obesity Strategy may be effectively communicated and implemented. This can be facilitated through advocacy meetings;
- Proper education on healthy eating and physical activity is needed from school level. This should include a factual, scientific, unbiased education about, for example, the evolution of man's diet through history and how that has shaped the world around us, the concept of energy transfer as it relates to our food chain and metabolism (age appropriately included into the CAPS curriculum);
- More education to the family members and not just education to the ones struggling with obesity;
- Prioritize building more fitness facilities that promote physical activities and make sure that they are easily accessible and safe, including side-walks and cycling trails;
- Promote the establishment of obesity support groups and group sessions for fitness.

3.4.9 Group 9: Community influencers

This is another primary target group for the strategy and includes educators, community members and councillors. There was a good response from this group (59 responses out of 59 invitations), most of them being community members, with 6 councillors, 18 educators, 12 heads of household, and 2 religious leaders (participants could choose more than one option). Due to their diverse roles in society, there was a general lack of agreement between the different members of this group in response to questions.

Approximately half of the respondents were aware of the national strategy for the prevention and control of obesity (Figure 2). There was varying but generally low participation for each of the activities identified in the strategy to facilitate community participation, namely:

- Participating in community discussions on healthy diets (22%)
- Going for counselling on overweight, hypertension or diabetes (14%)
- Participating in a hypertension or diabetes support group (12%)
- Establishing a household / community food garden (29%)
- Participating in establishing or maintaining community-based support groups that promote healthy eating, physical activity or healthy weight control (15%)
- Participating in a community-based physical activity group (24%)
- Participating in a community organised physical activity event (29%)
- Promoting sales of healthy food around schools (14%)
- Having had a BMI assessment (36%)

Of the 59 respondents, 30 agreed that nutrient content is clearly displayed on food packaging, and 9 disagreed. 28 respondents (48%) reported that community-based physical activity groups exist within their communities. 42 respondents (71%) reported that they get information about exercise from the internet, TV, magazines or other popular media, and 22 (37%) received exercise information from health professionals (including physiotherapists, biokineticists, medical aid, and at healthcare facilities) or gyms/personal trainers. Similar responses were received when asked about information related to healthy eating, with 41 (69%) respondents saying that they get information from the internet, TV, radio or other popular media, and 22 (37%) reporting that they got information from health professionals (dieticians, nutritionists, medical aid, and at healthcare facilities) or gyms.

Among the ***challenges*** in reducing obesity in the communities, the following were reported by local-level beneficiaries:

- Poverty, unemployment;
- Fruits and vegetables are not easily accessible and they are expensive, while unhealthy meals are easy to access, with many fast food shops and street vendors;
- Busy lives, time management: fast food is convenient for on the go meals;
- Lack of knowledge about obesity and its consequences, ignorance on the topic of healthy eating;
- Counterproductive beliefs and cultural norms, such as: being obese is seen as a sign of a good life, it's fine to be overweight if you have kids, and that obesity is genetic;
- Lack of support from some family members and friends;
- Lack of resources or programs that promote physical activities, lack of free access to fitness facilities, gym memberships are costly;

- Youth inactivity, lack of parental guidance, lack of self-discipline, peer group pressure;
- Crime: it's not safe to exercise on the streets and there are no recreational facilities in the area;

Several respondents reported that they cannot think of any ***success factors***, while multiple respondents reported that it is becoming more popular to grow your own vegetables in household or community gardens.

Respondents made the following ***recommendations*** for the updated strategy:

- Subsidy on healthy food items;
- Establishment of community resources that facilitate physical exercise;
- Greater availability of resources on nutritious foods, as well as BMI calculation guide.

3.4.10 Group 10: Local-level food outlets

This group consisted of a convenience sample of 25 tuckshop owners and street vendors who were approached to be interviewed by three review team members.

Of the 24 responses received, almost all (92%) thought that obesity is a problem in South Africa, but most (75%) said that they were not aware of the government's policies or efforts to prevent obesity in South Africa. Some (25%) said that they had received guidelines about what food to sell to promote healthy eating and prevent disease, mostly via radio or TV. None of the respondents reported that they had received messages about increasing access to healthy food.

Among the ***challenges*** reported in relation to preventing and controlling obesity in South Africa, responses included:

- Poor food choices: People eat too much fast food, fatty food, meat, beer, and sugar;
- Poverty and unemployment: No money to buy healthy foods like fruits and vegetables, which are more expensive than junk food. People eat what they can afford;
- Lack of exercise. Community is not designed to support physical activities, there are no resources or equipment;
- People are not educated about obesity. Many people do not regard themselves as obese, they think they are in good health.

With regard to the ***challenges*** in relation to selling healthy food in the shop or business, responses included:

- No easy access to fresh fruits and vegetables, they are expensive, and they spoil before they are sold;
- Fruits and vegetables are heavy and we must pay for delivery from town;
- Customer preference for salty snacks, sweets, cookies, fatty foods, and ready-prepared foods; unhealthy food is easier to sell so we supply what customers demand;
- Lack of knowledge about what foods to supply, misinformed beliefs ("When people are happy, they automatically end up with big bodies, there is nothing that can be done to reduce it");
- Competition from big supermarkets which sell for lower prices, competition from informal takeaway businesses which sell tasty fatty foods.

Among the ***recommendations*** on what should be done differently to reduce obesity, local food vendors responded:

- Health promotion: encourage exercise, drink a lot of water, eat more vegetables and fruit, eat smaller portions, how to prepare healthy meals at home, nutrition education;
- Government to provide areas for growing own vegetables, help with drilling boreholes for water;
- Educate children about obesity at schools so they can educate their families;
- Subsidies for healthy food.

Vendors were also asked for ***recommendations*** on what could be done to support them to offer foods that would help to reduce obesity. Their recommendations included:

- Improving public safety, creating safe environments, and protection against crime;
- Addressing poverty would enable poor people to buy healthy food;
- Government support for vendors, including building stalls for street markets, government subsidies and lowering the price and access to fruit and vegetables;
- Assistance with land and support for vegetable production;
- Assistance with marketing healthy foods through store adverts;
- Educating communities and vendors.

3.4.11 Group 11: People affected by obesity

This group consisted of individuals who have been referred by health care professionals for the treatment of obesity, of which 51 out of 133 responded. The majority of respondents were women between 30-49 years of age. The respondents age and sex characteristics are shown in figure 5.

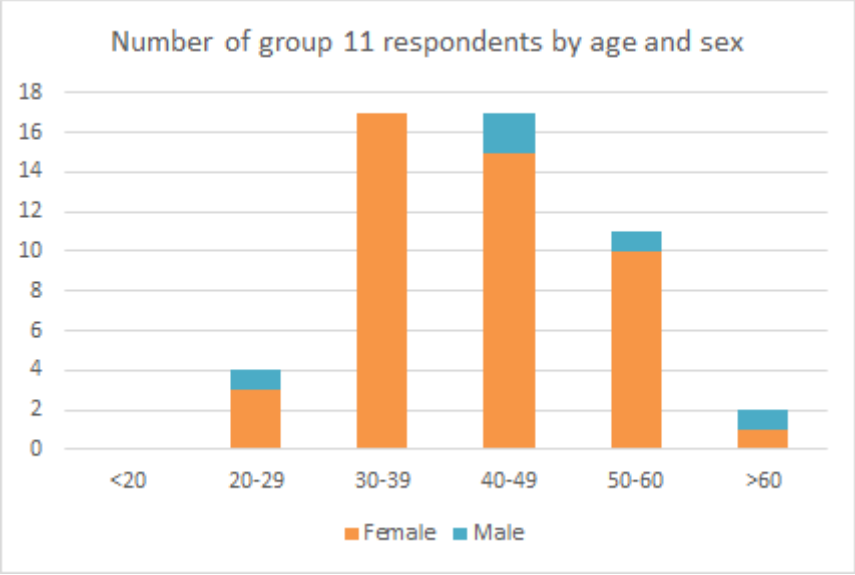

Figure 5: Details of respondents in group 11: people affected by obesity

The majority of respondents live with a spouse/partner with or without children, and only 5 respondents reported living alone. The majority (76%) had access to private health care. 94% of respondents have been trying to lose weight for more than five years. All respondents have tried dieting, 84% have tried physical activity and 78% have tried over-the-counter medication to lose weight.

Respondents described their personal problems due to their body weight, including infertility, difficulty to perform daily or leisure activities such as playing with children, pain, cardiovascular disease, diabetes, and psychological problems such as low self-esteem. 84% of respondents experienced stigmatisation because of their weight, which can cause significant distress.

The respondents reported the following ***challenges*** in losing weight:

- Difficulty in maintaining weight loss;
- Sustaining the diet or exercise program;
- Healthy foods and gym fees are expensive;
- Having to cook for family who don't have weight problems, having different food than others in household;
- Motivation to keep going when there is pain and slow progress;
- Depression.

Several activities or activity groups to facilitate physical exercise were available in the communities of the respondents, such as gyms (62%), free walking trails (56%), and park runs (40%), while only 10% reported no access to physical activity opportunities in their communities. Despite the availability, 51% of participants do not participate in any of these activities, mainly due to concerns for their safety (49%), not having a partner/friend to join them (41%), or lack of time (33%) (more than one reason could be selected).

Most respondents (73%) were not aware of government efforts to prevent and control obesity in South Africa. ***Recommendations*** for the updated obesity strategy included:

- Financial assistance with weight loss surgery for those who qualify but cannot afford the surgery;
- Make available free meal plans and exercise routines;
- Subsidised/affordable healthy food, gyms and indoor sports activities;
- More education about the health risks of obesity, in public awareness campaigns and in schools;
- More access to dietitians;
- Aftercare when weight is lost;
- Awareness campaigns to reduce stigma;
- Warning labels on high-fat and high-sugar foods.

3.5 Synthesis of stakeholder responses according to the key research questions

The 396 responses have been synthesised in relation to the key research questions (Section 3.1.1) i.e. if the action was taken, what were the challenges or barriers to undertaking the action, what were the success factors for implementation and what should be done differently to ensure that the goals of the strategy are achieved. The responses were further synthesised according to codes identified by the review team. Codes were grouped together in categories and categories were grouped according to themes. Focus areas were identified based on these themes from the qualitative responses of the stakeholders in questionnaires and FGDs. Where needed information was verified or supported by published data.

3.5.1 Were actions from the national strategy for the prevention and control of obesity in South Africa (2015-2020) taken to achieve its stated goals and objectives?

Six different goals and 57 actions are listed in the 2015-2020 strategy document along with responsible stakeholders for each action.

Goal 1: Create an institutional framework to support inter-sectoral engagement.

This goal was the responsibility of the National government, in collaboration with the private sector and NGOs. These role players were mainly represented by group 1 and 2 stakeholders and they mainly agreed that **this goal was not achieved**. Respondents from academic institutions had limited direct partnerships with the government, but aligned their research with the National Development Plan. Most academics (75%) referred their students to the national obesity strategy, indicating interest from academics to be involved in activities related to the strategy, but they were never part of a formal institutional framework to support inter-sectoral engagement.

Goal 2: Create an enabling environment that supports the availability and accessibility of healthy food choices in various settings.

A wide range of departments from the National government (Health, Treasury, DPME, DTI, DALRRD, DoE) in collaboration with private sector, academics, media and NGOs were responsible for creating an enabling environment that supports the availability and accessibility of healthy food choices.

Successful actions taken in relation to goal 2 included the implementation of the health promotion levy (HPL). In 2014, the Department of Health tabled draft regulation R429 relating to the Labelling and Advertising of Foodstuffs, which aimed to prohibit the commercial marketing of food or non-alcoholic beverage to children unless it complies with as set of criteria (Guideline 14). This included limiting advertising in places where children are likely to gather, such as crèches, schools, and sports events. Yet South Africa has still not legislated R429 or developed a monitoring and enforcement framework for implementation (Republic of South Africa, 1972).

Although these findings are an indication of implementation of actions to limit access to unhealthy foods and drinks, the shortcomings are a lack of indicators to monitor progress that are associated with these findings. This is an indication of a need to develop/strengthen the monitoring and evaluation aspect of obesity control. **Key stakeholders from NDoH reported that this goal was partially achieved.**

Few national level informants responded, but they did not agree that this goal was achieved, or were not involved. Responses from the interested parties group indicated that most did not know if objectives related to this goal were achieved, or they reported that the achievement of the objectives were poor.

Goal 3: Increase the percentage of the population engaging in physical activity.

Key stakeholders had a limited role to play in the implementation of goal 3, because the DSRAC were largely responsible for the implementation of this goal. Indicators and targets in relation to promoting physical activity in worksites, schools and communities were non-specific and difficult to measure, and therefore not monitored. Key stakeholders were aware of resourced physical activity interventions in some departments and workplaces, wellness promotion days, and provincial physical activity plans.

Four of the 8 national-level stakeholders were involved in implementation of goal 3 and reported that they promoted physical activity-friendly worksites.

Goal 4: Support obesity prevention in early childhood (in-utero to 12 years).

Key informants reported that the "Side-by-Side" national campaign was implemented for optimal development of children under 5-years. The respondents were of the opinion that the campaign was successful in terms of policy and guideline development, capacity building among health workers, training of ECD managers and health workers. Three out of 8 national-level respondents reported that they were involved in implementation of this goal.

When national and provincial level secondary informants and the interested parties group were asked to rate the extent to which the previous strategy achieved each of the 23 objectives, the top 3 highest-scoring objectives were within goal 4 (see Figure 3): *Strengthening the protection, promotion and support of optimal breastfeeding to explicitly address obesity* (average score 3.09), *Ensuring appropriate complementary feeding practices to explicitly address obesity* (average score 2.78), and *Ensuring explicit focus on obesity prevention in routine growth monitoring in children* (average score 2.69). However, the average scores themselves were still quite low on the scale of 1-5, indicating that even the objectives which were perceived as "best achieved" still require improvement to be considered satisfactory.

Goal 5: Communicate with, educate, and mobilise communities.

The key respondents reported that communication activities focus on the annual National Nutrition Week and World Obesity Day in collaboration with a multi-sectoral working group. NDoH avoids working with industry on these initiatives, because they cannot market their products during these activities. **The key stakeholders believe that this goal has been partially achieved.** Most respondents from the interested parties' group did not know (32%) or disagreed (59%) that a communication plan was developed that educates the community on healthy eating, regular physical activity and risks associated with obesity.

Goal 6: Establish a surveillance system, strengthen monitoring and evaluation, and research.

According to the key informants, actions implemented include provincial health screening days, but no weight status monitoring was conducted within communities. None of the national level respondents were involved in M&E activities, although 2 out of 8 felt that access to health screening services had improved. Half of the provincial respondents reported that they were involved in contributing to goal 6. Five out of 14 (36%) felt that access to health screening services had improved, whereas only 1 provincial respondent felt that the objective "Set and implement the research agenda for obesity" had been achieved.

The stakeholders also rated, in their perception, the extent to which each of the 23 objectives from the 2015-2020 obesity strategy had been achieved or not on a scale from 1 to 5. It was interesting to note that four of the five objectives that had received the highest average ratings for achievement were linked to maternal and child health, namely optimal breastfeeding promotion, ensuring appropriate complementary feeding, obesity prevention during growth monitoring, and supporting appropriate weight gain and healthy eating during pregnancy.

3.5.2 What were the challenges related to the prevention and control of obesity in South Africa?

In line with the social determinants of health (as illustrated in figure 6 below), *challenges* identified by the stakeholders were grouped based on codes and categories identified from the qualitative data and summarised in Appendix 2. These categories were grouped according to themes, which were then used as focus areas in order to develop a theory of change on which to build a revised national obesity strategy.

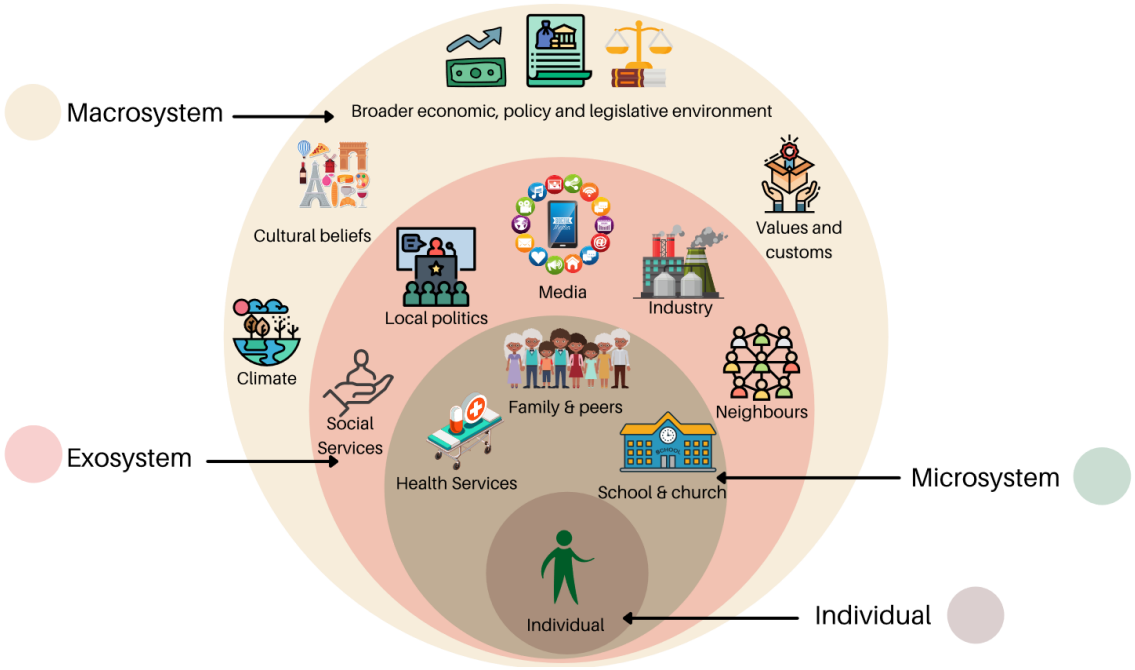

Figure 6: The social determinants of health

In relation to the *macrosystem*, the main themes emerging focussed on socio-economic conditions, the policy, legislative and regulatory environment, planning and implementation, and cultural norms. The *exosystem* themes were related to the food system, mass media and food industry advertising, group dynamics, the physical environment and access to healthy food and physical activity opportunities. Peer pressure, parental guidance, the health care system, and lack of basic information and education were the key themes of the *microsystem*. In relation to *the individual*, key themes emerging were lack of will to exercise and change diet, and genetic factors. Themes emerging are illustrated in figure 7 below.

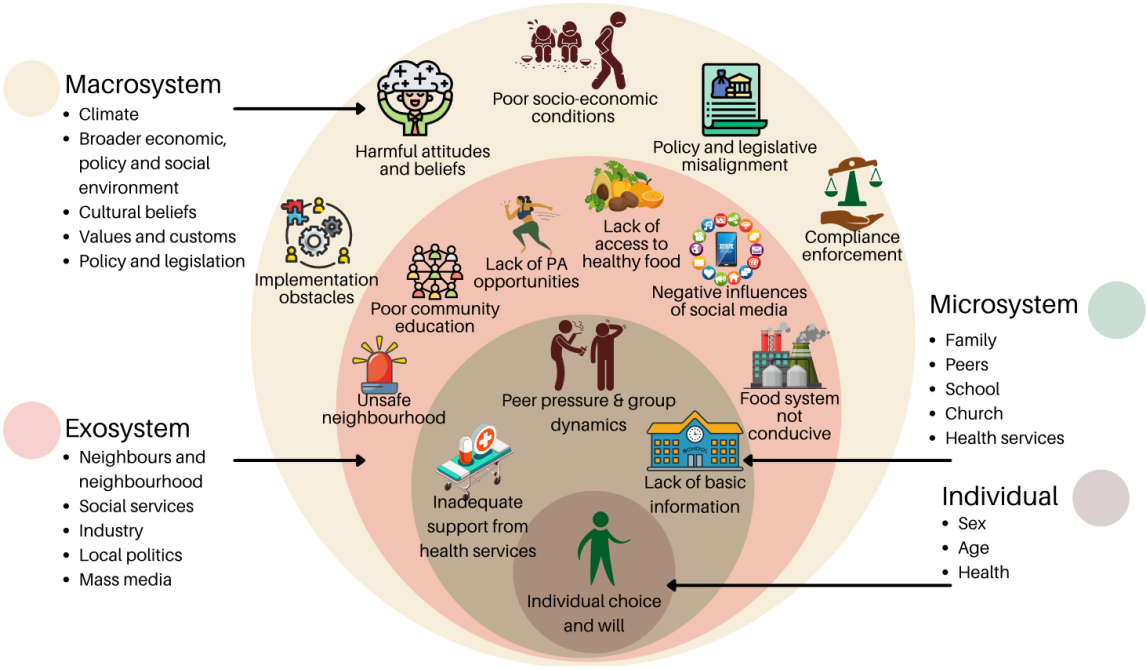

Figure 7: Categories and themes emerging in relation to challenges

3.5.2.1 Emerging themes

Socio-economic conditions

People living in poverty are not able to make healthy choices and eat whatever they can. Limited leisure time constrains opportunities to do physical exercise. Political instability and high crime rates in under-resourced areas exacerbates the stressful living conditions and is not conducive to healthy living.

> "Challenges in South Africa are multi-faceted and the solution has to employ a whole food system lens. They include reliance on refined starches for filling up, fuel poverty, excessive portion sizes, lack of dietary diversity, limited access to nutritionally adequate diets driven by poverty, structural food price structure (driven by supply chain and wider food environment), South African history as well as limited consumer demand for more nutritious foods."

Harmful attitudes and beliefs

People believe that healthy choices and healthy food is only for people who want to lose weight or people who have diabetes, and hypertension. Many people associate over-weight with good health and prosperity. There is a belief that obesity is genetic and that there is nothing that can be done about it.

There has been an unhealthy transition from wholesome cultural food to fast food as a result of urbanisation and a culture of over-consuming meat and specifically fire-cooked meat.

There is a negative perception about the taste of healthy food and that it is more expensive than other options.

Policy, legislative and regulatory environment

Trade policy is not aligned with proposed legislation such as front of pack labelling (FoPL). There is also different criteria for warning labels and nutrient claims. It is also difficult to monitor the compliance of industry with legislation and regulations.

There is a lack of simple, effective, clear messaging aligned across sectors, and "health in all" policies are not realised.

Commercial interests appear to overshadow efforts.

> "The biggest challenge is finding coherence between policy such that resources and activities converge in food environments. We recognise that a policy hierarchy may exist which may offset some health policies against economic growth policies (as an example)."
>
> "There is a lack of a balanced and holistic approach to all foods and beverages in a balanced diet and not the targeting of certain products only."

Planning and implementation

Plans and interventions are generally not evidence based. The system is also not sufficiently responsive to act on evidence when it is available. An evidence-based approach is made difficult through lack of credible baselines, especially in relation to issues such as food dietary intake.

The 2015-2020 strategy did not have a champion or driver to coordinate the strategy and ensure implementation. There was also no effective cooperation and coordination between the sectors and between government departments. Information was not effectively disseminated and there was a lack of buy-in from stakeholders. Inadequate resources were allocated to implementation.

DOH has a high workload, which prevents participation in more research and related initiatives. There is a shortage of funding and human resources to render services.

The food system

The food system is not conducive to healthy eating. In the last 20 years caloric content of some fast food has doubled and the average portion sizes for soft drinks tripled.

> "The global food supply system fosters obesity and related non communicable diseases prevalence."
>
> "The only way to reverse obesity is to have South Africans stop eating addictive foods."
>
> "To overcome the challenge of obesity and related NCDs the solution may be found not in more regulations on specific nutrients but rather in addressing total caloric consumption per occasion."

Unhealthy food is easily accessible, and seen as cheap and filling, while healthy options are more difficult to obtain and often more expensive. The shelf-life of fresh fruit and vegetable being much shorter than highly processed food results in street vendors and school tuckshop owners stocking more highly processed food. The competition for markets among street vendors promotes the selling of cheap, fatty food. Vendors are dependent on demand – if children want sweets and unhealthy food, they have to stock this.

Lack of physical activity opportunities

The environment is not conducive to exercise and there is a lack of safe spaces for exercising**.** Gym membership is expensive, and most people cannot afford them. Most poor socio-economic areas have high crime rates and no free, accessible facilities. Often there are no public sports fields in the community. Where there are sports fields, or free open gyms, they are not maintained and do not have adequate equipment. The physical space in some communities limits activity. For example, there are often no sidewalks for jogging or walking or community centres or recreational halls.

> "Big supermarkets like Shoprite and Pick 'n Pay sell for lower prices than street vendors because they buy in bulk and get more discounts, people choose them most often. We do not want to sell what will be stuck in shelves."

Mass media and food industry advertising

There is a significant amount of misinformation on social media in relation to nutrition and what constitutes a healthy diet. Industry marketing of fast food and food products is very successful and not always in line with a healthy diet. By contrast, there is inadequate funding available to promote social and behaviour change.

Group dynamics and peer pressure

Significant community and peer pressure can result in over-consumption of calorie-rich alcohol and the consumption of unhealthy food. Lack of parental guidance and unsupervised eating among children contributes to obesity in young people.

> "People with obesity feel shame and stigma and avoid Heath care practitioners."
>
> "HCPs have bias and are less willing to offer constructive medical support."
>
> "With over 200 conditions associated with obesity an initial assessment with an HCP for a PWO would end up being a very lengthy consultation and this is not adequately reimbursed by Medical

The health care system

Health care facilities do not give patients enough information, specifically in relation to infant nutrition. Obesity screening is not well promoted, and the message is not continuously communicated to the patients at clinic or hospital level or at the community level. Most people do not check their weight regularly. There is also a lack of basic equipment for obesity screening in clinics.

Follow up or monitoring and evaluation strategy to ensure obese clients lose weight is not enacted, so there are inadequate follow-up consultations. BMI measurements and engagements are done on a one-on-one basis with patients, which is not time efficient. Because of the number of patients at primary level care the one-on-one engagements are not effective and cannot cover all patients. There is also a lack of skilled counsellors and a shortage of dieticians and nutritionists in rural areas.

"Clients or patients visit once or twice and they are gone. There is no down referral system that is effective to continue monitoring patients or clients."

´The message from HCP about obesity prevention is not consistent and evidence based."

Lack of basic information and education

There is a lock of basic education about the dangers of obesity, obesity prevention, and information about practical nutrition and healthy food and exercise choices. People would choose to grow their own if they had the resources and the correct information. Consumers do not understand what goes into products and the functions of the ingredients.

"Some people use poverty as an excuse but if they were taught how to prepare food, this would change."

"The majority of people do not know how to have a healthy balanced diet on a budget."

"Not many people understand the nutritional value in food packs or labels."

There are limited number of community awareness programmes on obesity and healthy eating and there are no clear, user-friendly dietary guidelines on prevention and control of obesity communicated at community level.

Individual choice

Children prefer to buy sweets and processed food and believe that healthy food does not taste good.

Patients are not motivated to follow a weight reduction protocol and there is generally a poor response to counselling.

"People are lazy, and do not see any benefits in doing physical activity."

"Healthy eating is promoted, but people are ignorant and lazy to prepare healthy food."

" Technology has made people become couch potatoes. They spend many hours on their laptops, computers, phones and TV."

"Television watching can make people too lazy to engage in physical activity."

People don't make healthy food choices or choose to do some physical activity; they do not prioritise preparing a healthy meal as opposed to a fast unhealthy meal.

A more detailed table with challenges and associated recommendations suggested by stakeholders can be found in Appendix 2.

3.5.3 In what ways was the national strategy for the prevention and control of obesity in South Africa (2015-2020) successful?

Few success factors related to goal 1 were identified, but provincial level informants, interested parties and health professionals mentioned support from NDoH, intersectoral collaboration, multidisciplinary team efforts and the willingness of CHWs to participate. The leading role of some health professionals and the integration of healthy eating and physical activity into existing strategies were also reported.

Some actions taken according to goal 2 can be regarded as successes. According to the key stakeholders from NDoH, supported by the view of health professionals, provincial level key informants and interested parties, the health promotion levy (HPL), also called the "sugar tax", was successfully implemented and supported by the National Treasury. The HPL was successful in contributing towards reducing sugar in processed foods and drinks (Stacey et al 2021), an expected outcome of the 2015-2020 strategic document. Another reported success of goal 2 was the increase in household and community vegetable gardens, which supports the accessibility of healthy fresh foods.

In 2014, the Department of Health tabled draft regulation R429 relating to the Labelling and Advertising of Foodstuffs, which aimed to prohibit the commercial marketing of food or non-alcoholic beverage to children unless it complies with as set of criteria (Guideline 14). This included limiting advertising in places where children are likely to gather, such as crèches, schools, and sports events. Yet South Africa has still not legislated R429 or developed a monitoring and enforcement framework for implementation (Republic of South Africa, 1972).

In relation to goal 3, stakeholders from the provincial level informants and health professionals' groups reported success with increasing the percentage of the population engaging in physical activity, in particular at workplaces. Walk, run, or outside gym activities in communities were also reported by health professionals.

A success factor related to goal 4 reported by key informants is leadership of the Schools and Child Health cluster within NDoH in implementation of the "Side-by-Side" campaign. Health professionals agreed that campaigns driven by NDoH were success factors and mentioned the breastfeeding programme at maternity departments as a successful intervention.

Several examples of successful initiatives to communicate with, educate, and mobilise communities (goal 5) were reported by key informants from NDoH, provincial level informants, academics and health professionals. These included communication during National Nutrition Week and World Obesity Day, nutrition education by dietitians, health awareness days and social marketing activities.

No clear success factors related to goal 6 were reported, other than that DHIS data will now collect relevant indicators. Stakeholders from interested parties mentioned understanding of consumer behaviour in order to plan nutrition education and understanding of the impact of obesity on other diseases and health care costs as success factors.

Health professionals stated that a multidisciplinary approach is a success factor, while others believed that individualised diet plans contributed to their success with obese patients, in particular in higher socio-economic groups. They also reported success in screening for obesity and referral for treatment. The National Food Security and Nutrition Plan was used as an example of a successfully developed

plan, although implementation is ongoing. Respondents from industry referred to work done by industry on product reformulation, which may be regarded as a success factor.

3.5.4 What should be done differently in relation to the new national strategy for the prevention and control of obesity in South Africa?

Recommendations were summarised according to the focus areas identified in Appendix 2 and will be presented in the strategy review report. Most recommendations focussed on improved availability and access to affordable healthy foods, improved collaboration, and access to safe and affordable local exercise opportunities. Several stakeholder groups recommended that the obesity strategy must be based on robust research and evidence-based decisions, and that stakeholders must be involved during early stages of planning, in order to get buy-in and to allocate responsibility to achieve the goals of the strategy. Specific recommendations further included to enforce front of pack labelling, improve education and communication strategies and community programmes, and to regulate advertising of unhealthy foods and drinks to children. A clear monitoring and evaluation framework is recommended to improve implementation and monitor progress in achieving these objectives. Recommendations from stakeholders are summarised by themes in Appendix 2.

4 Phase 2: Stakeholder engagement for inputs to the updated strategy

Once data from the Best Practices review and stakeholder engagement plan will be analysed and collated, the review team will use this information to develop the first draft of the new national strategy for obesity. The draft will be submitted to project management for review and input. Once the input is incorporated, the new strategy will be presented to stakeholders for inputs and comments.

It is envisaged that the stakeholder groups will largely remain the same as those for Phase 1 of the stakeholder engagement process. However, the review team will make more use of in-person engagements in the form of workshops and focus group discussions as opposed to on-line or guided questionnaires.

Data gathered from stakeholders through these workshops is expected to provide important insights into the feasibility, sustainability, budget implications and efficacy of the national strategy for the prevention and control of obesity in South Africa, 2022-2027.

5 Summary and conclusions

Given the complexity of obesity, the multiple stakeholders and diverse components within the strategy, this review could not ascertain to what extent any changes in obesity rates in South Africa could be attributed specifically to the strategy. However, the review identified challenges, success factors, areas for future improvement of the strategy, as well as areas for future policy development and research. Challenges and recommendations focussed on six themes that emerged from the stakeholder responses, namely access to healthy food and physical activity opportunities, education and communication, policies and legislation, planning and implementation, monitoring and evaluation, and the healthcare system.

This review has multiple limitations. First, stakeholders that were interviewed were contacted based on a list provided by NDoH, supplemented by recommendations from review team members and respondents and may not have been representative of stakeholders who have been involved, or were

supposed to be involved with the strategy. Given limited resources, such as lack of funding for travel and restrictions due to the COVID-19 pandemic, we aimed to gather multiple viewpoints from various stakeholder types, and we mainly depended on online questionnaires distributed via organisations to members. Although the data described represent convergent viewpoints, there may be alternate observations that we did not capture with the limited reach and sample size. Second, we collected surveys using convenience samples of tuckshop owners and vendors from urban areas in three provinces only and they are not representative of all possible participants. Therefore, we did not have information from rural areas and from the other six provinces and our findings may not be generalisable to other cities or rural communities.

Recommendations based on the stakeholder inputs (Appendix 2) will be critically appraised and incorporated into the revised national strategy for the prevention and control of obesity in South Africa, 2022-2027.

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Appendix 1: List of stakeholders

Association for Dietetics in South Africa. ADSA

Better Health Programme South Africa. BHPSA

Beverage Association of South Africa. BevSA

Bonitas Medical Aid.

Centre of Excellence for Nutrition. CEN NWU.

Chief Financial Officer. CFO

CHOW Nutritional Solutions.

Clinton Health Access Initiative. CHAI

Community Health Workers. CHW

Consumer Goods Council of South Africa. CGCSA

Cooperative Governance and Traditional Affairs. COGTA

Department of Agriculture, Land Reform and Rural Development. DALRRD

Department of Basic Education. DBE

Department of Health. DoH

Department of Planning, Monitoring and Evaluation. DPME

Department of Public Service and Administration. DPSA

Department of Social Development. DSD

Department of Sports, Arts, Recreation and Culture. DSARC

Department of Trade and Industry. DTI

Department of Transport. DoT

Diabetes South Africa.

Dietetics is a Profession. DIP

Discovery Health.

Double Burden of Malnutrition. DBM

DSI-NRF Centre of Excellence in Food Security.

Early Childhood Development. ECD

Ethicon.

Fitchef.

Food Lab US.

Government Employees Medical Scheme. GEMS

Grow Great Campaign.

Healthy Living Alliance. HEALA

Heart and Stroke Foundation of South Africa. HSFSSA

Lipid and Atherosclerosis Society of Southern Africa. LASSA

Medscheme.

Medtronic.

Momentum Health.

National Consumer Council. NCC

National Department of Health. NDoH

National Research Foundation. NRF

NCD Alliance.

NCD Coordinators (provincial).

Noakes Foundation/Nutrition Network.

Non-Governmental Organisations. NGOs

Novo Nordisk.

Nutrition Society of South Africa. NSSA

Physicians Association for Nutrition South Africa. PAN

Pietermaritzburg Economic Justice & Dignity. PMBEJD

Priceless SA.

Provincial departments of health: nutrition, health promotion, NCD, communication

SECTION27.

Society for Endocrinology, Metabolism and Diabetes of South Africa. SEMDSA

South African Association for Food Science and Technology. SAAFOST

South African Civil Society for Women, Adolescent and Child Health. SAWACH

South African Federation for Mental Health. SAFMH

South African Local Government Association. SALGA

South African Medical Association. SAMA

South African Medical Research Council. SAMRC

South African Police Service Medical Scheme. Polmed

South African Society for Surgery, Obesity and Metabolism. SASSO

South African Society of Endoscopic Surgeons. SASES

The Cancer Association of South Africa. CANSA

Appendix 2. Synthesis of stakeholder responses according to themes: Challenges and Recommendations

Challenges offered by stakeholders	Recommendations offered by stakeholders
Access and availability of healthy food and physical activity opportunities	
Easy access to unhealthy food Unhealthy food, big portions, foods high in sugar are readily available; Unhealthy food sold in street stalls: braaied meat at low prices; cheap red meat, barbecues, tripe, unhealthy spiced chicken, chicken wings; Not easy to stick to healthy menus; High-sugar snacks sold at school tuck shops; Schools sell unhealthy snacks; low socio-economic neighbourhood schools provide access to cheap unhealthy foods and drinks;	***Identify viable alternatives to unhealthy food*** - Provide nutrient dense foods high in protein, sparser in calories. - Limit fast food outlets in densely populated residential areas. ***Educate vendors on healthy food options and how to access them*** - Educate vendors on which food to sell - Teach vendors / tuckshop owners on healthy food
Food system does not support healthy eating Food supply systems not conducive to healthy lifestyles; Global food supply system fosters obesity; Lack of access to balanced and nutritional meals; Sugary drinks, ultra-processed foods, and deep fried are more prevalent than healthy food; Narrow band of food diversity availability; Healthy food supply is not sustainable; Food prices driven by supply chain	***Focus on the food system to ensure healthy foods are readily available*** - Focus on the food system approach and availability of foods - Involve DTI and Agriculture to enable access to affordable health food - Make it easier to eat real foods
Demand dictates supply Consumer demand drives supply of unhealthy food: children asking for sweets, cookies, chips, shops stock what they buy; Consumers demand fast foods and fatty foods, they are tasty, readily available and cheap; Consumers want fast filling food on the go, salad is considered a snack; Unhealthy food easier to sell; People buy ready prepared more often than healthy food. People buy ready prepared more often than healthy food.	***Educate children from primary school level*** - Reprogram children at school: education on healthy eating and PA - Teach children to recognise real food and to understand labels - Educate children on obesity at schools, they can educate their families - Consumer education via school curriculum - Positive promotion of whole foods, limiting screen time in children - Education on diseases of lifestyle and obesity as part of the CAPs
Healthy food is unaffordable	***Subsidies, tax reduction and incentives to ensure affordable healthy food***

Challenges offered by stakeholders	Recommendations offered by stakeholders
Unemployment and poverty: people are too poor to buy healthy food, eat what they can afford; Healthy foods are expensive for low socio-economic families; Vegetables and wholegrains unaffordable; People can only afford staple food; People don't have enough money to buy fruits and vegetables; Consumers buy what is affordable and filling, and that is junk food;	- Zero rate VAT on healthy food - Incentives for sales of better food choices - Make healthy foods affordable for the majority of the population - Reduce the cost of vegetables, grains, and high-quality protein foods - Subsidize fruit and vegetables to make it more affordable - Support the production of local food sources
Lack of awareness of opportunities for available sporting activities Lack of awareness in sporting activities People think exercise is running for km's or boot camp, but don't know exercise can be fun	***More focus on local sports activities and exercise opportunities*** - Multi-disciplinary community teams to advise on PA - Community resources that facilitate physical exercise - Wellness training centre accessible to the community - Employ biokineticists in the public sector in community programmes - Community fitness events in public spaces
Limited access to physical activity opportunities School environment in low socio-economic neighbourhoods has no access to sport and recreative physical activity facilities; Not everyone can afford to exercise or go to gym; Lack of maintenance of municipal sport facilities; Lack of materials and equipment in the facilities; Fitness clubs are accessible at a fee, not everyone can afford; Lack of free gyms and community physical activities; Lack of physical activity facilities in community; There are no resources and no equipment; Lack of access to facilities for recreational physical activity in low socio-economic neighbourhoods; COVID 19 has caused recreational facilities to close; sport activities in school suspended.	***Re-introduce physical activity into the school curriculum*** - Government school sports activities and qualified human resources. - Make PA mandatory from crèches up to tertiary level - Teach children how to move better from a young age, inculcate the culture of the love for movement to improve future PA - Encourage movement breaks every 45min for kids ***Create an enabling environment to encourage PA*** - Facilities in communities - sidewalks and cycling trails - PA training centres funded by the government. - Community recreational facilities and public fitness areas - Safe parks for children, outdoor free public gyms - Housing projects built with a recreational area for adults and children and community vegetable garden and planting fruit trees. - Indoor sports activity facilities, free for low-income families - Multi-professional teams to provide PA opportunities - Biokineticists, dietitians to prepare children for a healthier future

Challenges offered by stakeholders	Recommendations offered by stakeholders
	- Worksite PA day (e.g Wednesday or Friday afternoon)
Poor socio-economic conditions Unemployment and poverty; Lack of time for working individuals to exercise and do meal planning; Socio-economic status; Urbanization; Stress; Food insecurity; Food inequality; Riots prevent access to healthy foods People don't grow their own vegetables; Lack of water access	***Address the underlying issues of poverty*** - Address fuel poverty and lack of food diversity - Ensure food security; Food parcels with healthy foods ***Support communities to grow their own*** - Schools should have a vegetable garden to supply fresh vegetables - Vegetable gardens maintained by classes each week as part of the CAPS curriculum and linked to food based dietary guidelines - Encourage community food gardens - Provide and support areas for growing vegetables, drill boreholes - Teach communities skills to grow and harvest their own vegetables - Promotion and guidance to establish community vegetable gardens.
Neighbourhoods are too unsafe to exercise outdoors Unsafe neighbourhoods; unsafe for people to be physically active; No safe recreational area for physical activity; Women do not feel safe to go walking / jogging; No safe recreational and physical activity facilities in the community; No safe spaces for exercising and group exercise activities;	***Focus on ensuring safe areas in all communities*** - Address crime, improve public safety procedures - Protect pedestrians to encourage walking - Provide safe activity grounds - Paths for cyclists and pedestrians for safe walk and ride
It is difficult for vendors to supply healthy food Fruit is heavy to transport delivery costs increase prices; No easy access to fresh fruits and vegetables; Big supermarkets sell for lower prices than street vendors: people choose them most often; Vendors do not want to sell something that would be stuck in the shelves. Fresh fruit and veg are perishable, they spoil before vendors can sell them. Fresh fruit and veg are perishable, they spoil before I can sell them. No easy access to fresh fruits and veg [Vendor responses]	***Enable street vendors to supply healthy affordable food*** - Build permanent stalls for street markets - Provide advertising material to educate consumers about the importance of buying and eating healthy food at vendors - Subsidise healthy options for vendors, assist them to negotiate prices - Address upstream factors that limit availability of whole foods. - Assist tuck shop owners to market healthy foods, store adverts
Lack of support from employers	***Promote health benefits and wellness programmes in the workplace***

Challenges offered by stakeholders	Recommendations offered by stakeholders
Work food program does not promote healthy eating; Sedentary jobs with no encouragement by management to be more active; No place to eat lunch at work, people sit in front of their desks all day	- Promote exclusive breastfeeding (EBF) support the working mother - Child-friendly workspaces and maternity leave benefits to encourage EBF and appropriate child feeding practices - Provide sports time to employees: 30 minutes 3 times a week - Implement monitoring of worksite wellness programmes - Establish employees' workplace obesity strategy - Promote healthy eating in the workplace - Movement breaks every 45-90min for adults in the workplace - Involve senior management and health workers to lose weight
Education and communication	
Inadequate and ineffective education and communication strategies and community programmes Inadequate education on lifestyle measures; Lack of communication and information; Lack of healthy living information; Lack of simple effective messaging; Inadequate dissemination of information; Lack of practical nutrition education, and nutrition education communication platforms; Limited community awareness programmes on obesity + healthy eating;	***Establish and support community-level interventions*** - Community participation, social mobilisation is critical - Family centred interventions - More information and awareness in marginalized communities. - More community campaigns - Public sector qualified health workers to focus on community obesity - National, provincial and local food councils ***Provide community access to wellness programmes*** - Programs to support those that need to lose weight - Tailored activity to suit different interests and activity levels ***Integrate programmes with spatial planning*** - Nutrition sensitive spatial planning in cities and towns ***Develop a focused education and communication strategy*** - Ongoing advocacy and social mobilisation - Easy access to information, public promotion by respected figures

Challenges offered by stakeholders	Recommendations offered by stakeholders
	- Education of relevant industries - food outlets, transport - Mass media coverage highlighting benefits and programmes - Implement awareness programmes at Primary Care level - Educate on moderation, not extreme dieting - Free activity days - do not reward people by giving them fast food - Monthly promotion in stores, education on obesity and competitions - Create awareness and understanding of obesity as a disease. - Appropriate information at the correct level of understanding - Draw on the marketing skills of the food industry. ***Focus on the family and community as opposed to the individual*** - Education to family members of those struggling with obesity. - Focus on the importance of the nuclear family, involve fathers
Lack of knowledge and information on government policy, programmes Lack of knowledge of the obesity prevention strategy; Ineffective advocacy	***Introduce plans to communicate the National Obesity Strategy (NSP) strategy***
Negative influence of social media Access to correct information on social media; Patients tend to go for fad diets instead of healthy eating and exercise; Unsupported social media fads	***Actively mitigate the negative effects of social media*** - Use social media: educate, communicate with different age groups - Educational talk shows focusing on healthy living - Broadcast health and fitness shows on media platforms - Use churches to spread awareness - Magazines, buses and taxis and bill boards with broad reach: ensure large, bold, consistent messages on healthy eating and lifestyles. - Brochures on nutritional food items as well as BMI calculation guide
Lack of understanding in general of what constitutes healthy eating Ignorance on healthy eating; Most people do not know about a healthy balanced diet on a budget; Lack of information on complementary	***Promote nutrition understanding in schools from early childhood education*** - Focus on nutrition related concepts in the school curriculum - Dietician /nutrition to teach nutrition as a module at schools

Challenges offered by stakeholders	Recommendations offered by stakeholders
feeding; Nutrition misinformation; Not knowing how to cook healthy food in tasty and easy recipes; Agree on what constitutes a healthy diet	- Dietitians as a staff member that does nutrition education ***Focus on educating mothers on preventing obesity in their children*** - Attention to pregnancy weight gain in all antenatal clinics - Nutrition education to mothers on appropriate nutrition for children
Lack of understanding of obesity and its health implications in general There is a distinct lack of knowledge and understanding of obesity	***Inclusive education, involve stakeholders and marginalised groups*** - Counsel mothers on healthy food and eating habits for children - Food labelling in different languages - Education campaigns throughout the life cycle, ensure wide reach. ***Draw on experience in HIV/AIDS prevention and treatment*** - Use lessons from HIV/AIDS prevention and treatment programmes
Lack of understanding of how to exercise safely and within personal limits Lack of knowledge: many think exercise is running or boot camp; exercise can be fun; not knowing how or where to start an exercise programme.	***Improve awareness of physical activity levels and dangers of inactivity*** - Education on PA to keep lasting effects and develop healthy habits - Information on walking/cycle trails/ public recreational areas
General misinformation about nutrition and food preparation Nutrition misinformation***;*** Not knowing how to cook healthy food in tasty, quick and easy recipes	***Focus on nutrition and food preparation*** - Education on how to grow fresh produce and cooking skills - Better nutritional guidance; Healthy affordable eating plans - Encourage to eat only when hungry and eat small portions - Education on freezing for zero food wastage you need freezers - Avoid terms "use low fat milk and lean meat". Sugar, cold drinks, refined carbohydrates and PORTION SIZE should be key.
Harmful behaviour, attitudes and beliefs Parents reinforce picky eating; Lack of parental guidance; People do not want to be told they have an eating problem or are fat; People think you can out-train a bad diet; They think eating less to lose weight will put them at	***Learn lessons from HIV campaigns regarding stigma*** - Avoid fat shaming, but communicate risks with weight gain - Not to judge people

Challenges offered by stakeholders	Recommendations offered by stakeholders
more risk; People are being told that health is not as important as being content; Ignorance: People with money opt for fast-food rather than healthy homecooked meals; Many people do not regard themselves as obese, they think they are in good health; Many people like the 'rounder' look as a sign of "good life"; Cultural myths; People say it's ok to be overweight if you have had children; Believe it is in the genes, it runs in the family and can do nothing about it; Childhood obesity in the community viewed living well;	- Support health at every size, lose the stigma surrounding obesity. It causes resistance to change which does more harm than good. - Empower people to self-acceptance, support natural weight loss ***Adopt incremental approach to behaviour change*** - Incremental approach to shift attitudes to affect reasonable health. ***Behaviour change throughout life cycle*** - Education and behaviour change post education are key - Education to understand food products and functions of ingredients. - Eat at home campaign, mindful eating, stay active campaign - A focus on the first 1000 days
Unhealthy transition from traditional food to fast food Transition from traditional foods to fast foods (which is seen as more aspirational and a sign of affluence)	***Change attitudes and behaviour related to the move away from traditional food*** - Promote culturally and locally acceptable nutritious foods - Low-cost meals as a focus and adapt traditional meals to be healthier
Group dynamics reinforce unhealthy lifestyles Peer group pressure; Excessive intake of meat and poultry at braais, social gatherings; Excessive intake of alcohol at social events	***Behaviour change throughout life cycle*** - Education and behaviour change post education are key
People are unwilling to put in the effort to be healthy People don't want to work on losing weight; Excessive time on TV and electronic devices, less time to be active; Lack of discipline, people do not check their weight regularly; Lack of willingness of communities to change eating habits; No willingness to be physically fit; People are lazy to walk; Communities do not utilise support initiatives; Lack of patient motivation, perseverance and compliance; People are lazy to walk.	***Behaviour change throughout life cycle*** - Education and behaviour change post education are key

Challenges offered by stakeholders	Recommendations offered by stakeholders
Unclear guidelines There are no clear dietary guidelines on prevention and control of obesity	***Guidelines should be user-friendly and widely distributed*** - Guidelines to be communicated/distributed at community level
Monitoring and evaluation	
Inadequate monitoring in relation to obesity reporting DHIS Indicator for obesity is newly established and recording is poor Lack of baseline for dietary intake to enable an evidence-based approach	***Use professionals to develop criteria for monitoring*** - Clinically trained professionals like Biokineticits to advise on strategies - Include more evidence-based information on different age groups
Lack of accountability related to strategy implementation Lack of coordination and oversight between the different sectors and within government itself Little reviews on strategy to ensure strategy is performing as designed. if not make necessary tweaks No monitoring of the implementation of the strategy	***Responsive strategy monitoring and evaluation framework*** - Active participation of stakeholders during implementation - Midterm evaluation to take stock on progress and address gaps - Set achievable, relevant targets and monitor them - Incentivise implementation through performance indicators - Monthly monitoring and variation to programmes and follow-up
Lack of oversight and accountability mechanisms in relation to compliance with legislation and regulations Surveillance is lacking. Government is slow to take action despite evidence	***Strengthen accountability mechanisms*** - Push surveillance as a government agenda - Ensure industry accountability - Have regulatory rules to monitor nutrition education by companies - Monitor retailers in relation to guidelines: foods near paying points
Limited evidence-based planning and decision making - Government is slow to take action despite evidence - No monitoring from NDOH on provincial implementation -	***Strategy based on robust research and evidence-based decisions*** - Science-based obesity strategy with a Total Dietary Study as a basis - A dedicated state structure with satellite clinics for research and data

Challenges offered by stakeholders	Recommendations offered by stakeholders
	- Community-based research-to-action, citizen science participatory research to identify obesity determinants, co-designing, co-developing and co-prioritizing intervention programmes - A realistic research agenda for collaborative research and intervention
Planning and implementation	
Inadequate implementation Lack of interdepartmental programmes and support; Difficult to address collective action challenges; Integration is difficult if it involves different departments; Fragmented service delivery and planning. Covid-19 made implementation difficult;	***Understanding of provincial programmes, implemented and monitored*** - Define roles and responsibilities at different levels and sectors ***Ensure that sufficient resources are available***: - Well-funded implementation plan
Lack of buy-in from all stakeholders Lack of stakeholder commitment; Other departments and programmes not committed; No broad and continuous stakeholder engagement; Lack of collaboration between government and key stakeholders and among stakeholders; Relevant stakeholders not informed; Lack of participation or interest from non-affected parties;	***Ensure that all stakeholders are involved from the outset*** - Inclusive planning: include different age groups - Involvement of stakeholders from the development phase - Engage with stakeholders, advocate for financial resources - Involvement and meaningful contributions from all stakeholders (incl. all relevant government departments beyond DoH). - Ensure that counsellors and Kgosis play a role in the obesity strategy. - Buy-in of communities with positive key messages, not instructing them what to do but making them involved - Include different sectors in actions, communicate objectives widely
Lack of coordination and cooperation; No driver or direction No key coordinator; Lack of coordination and driver; Lack of coordination and cooperation; Public figures don't set a good example; No clear direction to provinces; Lack of interdisciplinary collaborative structure; No coordinating structure;Lack	***Strengthen partnerships with private health care practitioners*** - Strengthen the interface between NDoH and Private practicing Dieticians through improved consultation and communication ***Strengthen partnerships with private sector role-players*** - Greater public-private partnerships to implement the strategy

Challenges offered by stakeholders	Recommendations offered by stakeholders
of participation or interest from non-affected parties is hampering. Lack of interdisciplinary collaborative structures, poor efforts from government	- Partnership with industry to develop and achieve strategic objectives. - Food and non-alcoholic beverage industry as a partner in the strategy - Private companies to drive disease awareness programs - Collaboration with food industry in nutrition education - Engage with commercial and fast food outlets to create healthy meal options so that their social responsibility supports the strategy ***Improve coordination between government departments in government*** - Local government support and inclusion to strengthen action plans - Involve all relevant government departments beyond DoH - NDoH cannot drive the strategy in a siloed way, it needs to include all three branches of government ***Build capacity among all key stakeholders to implement the strategy*** - Capacitate key stakeholders to play a part in obesity reduction. - Develop and provide program focused training to all staff - Educate relevant industries - food outlets, transport, and mass media coverage highlighting benefits and ways to achieve outcomes - Serious action from multiple sectors in government led by NDOH ***A multi-sectoral platform for engagement and collective decision-making*** - Meetings where decisions are made jointly and collaboratively. - Formal multi-sectoral/ interdepartmental leadership structures - Better coordination and accounting structures ***Leaders to lead by example*** - Leaders in the government to set a clear public example - Pressure from government leaders to set examples of healthier BMI ***Establish a task force for the strategy***,

Challenges offered by stakeholders	Recommendations offered by stakeholders
	- Identify drivers and ensure stakeholder reporting along with change management of this process to change the current trajectory ***Build on successes*** - Work done by industry on product reformulation to be captured as part of the baseline for this National Obesity Strategy
Lack of resources - Lack of funding and human resources for programme implementation	***Set realistic goals and activities and earmark funding*** - Involvement of civil society, clear and realistic goals and activities with earmarked funding
Policy, legislative and regulatory environment	
Difficult to enforce compliance with legislation and regulations Companies are allowed to produce unhealthy foods FoPL opposition Lack of compliance with existing regulations Ultra-processed foods are designed to be addictive South African children become addicted to sugar from a very young age	***Incentivise incremental positive reformulation*** - Employ a whole food system lens, creatively incentivise incremental positive reformulation including incorporation of positive ingredients like legumes, nutrient-based enrichment, stimulate consumer demand for more nutritious foods and penalise nutrients of concern - Regulatory composition requirements (e.g. R1510 Dairy and imitation dairy regulations) when recommending product reformulation.
Excessive focus on regulatory measures Certain products are targeted; Lack of balanced and holistic approach to all foods and beverages in a balanced diet;	***Adopt a holistic approach to regulation*** - Address total caloric consumption rather than regulate the industry - Fight high price of healthy food, stop companies that produce unhealthy foods ***Target specific harmful foods and ingredients*** - Take extra salt and sugar out of food - Tax ALL sugars (including artificial) and ultra-refined low-fibre foods

Challenges offered by stakeholders	Recommendations offered by stakeholders
	- Regulate the sale of unhealthy food. (Regulations R991 has significantly reduced visibility of infant formula)
Misalignment of regulations with policy and legislation Trade policy issues Different criteria for warning labels	***Multi-sectoral policy alignment, and policy implementation*** - Nutrient profiling criteria for Marketing to Children and criteria for defining high fat/sugar/sodium foods to be aligned with work by the NDoH on front-of-pack labelling and WHO guideline on FoPL - Recognise the industry Health Food Options plan driven by the CGCSA in the updated obesity strategy. Take other national initiatives and social compacts into account: the Sugarcane Master Plan to which Government, Industries and Labour are signatories
Lack of regulation of marketing practices Marketing of unhealthy foods is very successful. Industry power; aggressive marketing	***Determine and enforce Front of Pack Labelling legislation*** - Nutrient profiling and FoPL help consumers to make informed choices and help motivate industry to reformulate products. - Label high fat and high sugar items with warning labels ***Regulate advertising to children and their adult parents***. - Similar approach as for alcohol, cigarettes and breastmilk substitutes - Regulate advertising of fast food or unhealthy food - Penalties for advertising unhealthy foods/lifestyles on TV/billboards. - Regulate where energy dense sugar, salt and fat dense luxury items are displayed in supermarkets and convenience stores.
Lack of resources Lack of resources/budget cuts Lack of financial resources to implement the strategy	***Adopt and adapt successful approaches*** - Ward-based outreach teams and community-orientated primary care (COPC) approach to focus on obesity in communities ***Allocate resources appropriately*** - Use sugar tax to build recreational centres for multidisciplinary health

Challenges offered by stakeholders	Recommendations offered by stakeholders
Prioritisation and political will Lack of prioritisation and political will; NCDs are not prioritised; Implementation not realised; Political stewardship; Inadequate government support for programmes; Prioritisation of strategy; Competing priorities; No political or government buy-in; Global food supply system fosters obesity, little political understanding to change this.	***NDoH must be visible in terms of health promotion*** - Visibility of the NDOH wrt health promotion - Public promotion from well-respected figures - Commemoration of Obesity Day with other stakeholders ***Elevate the political importance of nutrition*** - Elevate the political importance of nutrition to the same level as employment creation and economic growth - Prioritise OBESITY like other life-threatening disease and alcoholism - Make the treatment accessible and affordable
Unclear and non-responsive policies Impractical guidelines; Unclear policies	***Introduce tax incentives*** - A tax refund for taxpayers who can prove that their weight was within the global standard; awareness will have positive consequences. - Healthy food should be exempted from tax. - Increase in tax on sugar containing food - Subsidies for healthy food/food gardens/exercise programmes
Realistic and adequate solutions Solutions are not socio-economic sensitive Inadequate / limited programmes; Inadequate government support for programmes; Insufficient programmes	***Adopt a healthy cities approach*** - Healthy cities approach including big business - Collaboration. community reach, consumer consultation. Socio-economically sound interventions including legislation.
The health care system	
Non-availability of different treatment options Make bariatric surgery more accessible Portion control although is difficult with psychiatric patients	***Make bariatric surgery more accessible*** - Obesity surgery as a standard of care in the state sector at all academic hospitals: there is incredible local data to show the benefits.

Challenges offered by stakeholders	Recommendations offered by stakeholders
	- Facilitate access to bariatric surgery and training for bariatric surgeons - The cost of having a gastric bypass, be more inclusive; Financial assistance with weight loss surgery for those who cannot afford. - Bring back the Metabolic Surgery Program at Tygerberg Hospital - Subsidise medical aids to cover bariatric surgery; Medical aids should pay for weight loss surgery - Increase the right to decide on weight loss surgery ***Make non-invasive treatments more available*** - NDoH to consider portion and pack size control for energy drinks - Dieticians focus on individual patient care and medical nutrition therapy; a greater focus on the broad food environment is necessary. - Dietetics/Nutrition Therapy to be part of Health Support Services
Inadequate referral and patient monitoring systems Insufficient follow up consultations; Patients visit once and they are gone; No referral system to continue monitoring patients; Poor screening and referral of patients; Late referral for intervention to dietitian; Patients are not referred by GP's or Dieticians to Biokineticist to help with physical activity; People work from home, it is difficult to monitor who is following the prescribed exercises.	***Implement prevention strategies at PHC levels*** - Prevention strategies at PHC level - All members of the health team and CHWs should be informed, trained and encouraged to refer patients accordingly - Address PHC education and intervention: Patients are referred late to the dietitian with no intervention before they reach higher levels of care. Strengthen staff numbers to ensure comprehensive care. ***Have an effective patient monitoring system in place*** - Ensure patient participation and perseverance - Patient support and clear goals - Follow up, monitoring and evaluation strategy to ensure weight loss
Inadequately trained staff Lack of funding for development and training of staff; Practitioners lack the ability to counsel people properly; Lack of awareness on diet/ in-service	***Build the capacity of health care professionals*** - Community and professional education - Train healthcare professionals and staff - Capacitating primary care providers with skills in behaviour change

Challenges offered by stakeholders	Recommendations offered by stakeholders
training; Lack of practice of healthy eating guidelines by staff at health facilities; (Obesity) is not seen as a disease; Lack of recognition of obesity as a chronic disease; Obesity is a disease, but not treated as disease; Health care workers focus on prevention and management of undernutrition; they see overweight as healthy not a health problem	- Work with rural/outreach clinics/primary care facilities to educate HCPs about criteria for referrals, early detection and support - GP's to prescribe exercise and focus on health treatment and wellness - Employ relevant professionals, sustainable outreach programmes, add the obesity module in all health professional curriculum - Extra staff on ground level to educate both staff and patients - Continuous updated programmes to be taught to the clinicians - Empower all health professionals with training programs/sessions
Inadequate support and information from health care professionals No clear support for activities related to prevention of obesity; Lack of commitment from managers; Poor PHC management and intervention; Limited information to health care workers at operational level. The need for support groups; the need to create an environment which cultivates a healthy lifestyle and diet; Supporting patients with depression and stress; No funds for support programmes, HCP are biased and less willing to offer constructive medical support; Lack of private care health awareness, individual-centred care. Behaviour change: patients may be well informed but still struggle to change behaviour; Inadequate patient education and insight into the dangers of obesity; Lack of patient understanding of the risk of obesity; Lack of information about the services at facilities/clinics; Obesity screening is not well promoted; Not all clients are screened for BMI; Only dieticians are trained to educate, counsel and follow up patients on diet; Lack of awareness on role diet; Educate health care personnel first before community; Limited information from health facilities on infant nutrition; Obesity screening is not well promoted and the message is not	***Establish and strengthen support groups in health care facilities*** - Group session approach to treating obesity in private hospitals - Biokineticist can travel to the participants with minimal equipment - Social support in group sessions to clients/patients through guidance, reassurance of worth, social integration, opportunity for nurture. Group classes for social support. Support groups in the hospitals ***Sufficient health care professionals available at health care facilities*** - More dieticians/ nutritionists involved at government clinics. - Sufficient info to work with mental ill patients and their medication - Encourage citizens to consult dietitians throughout the lifecycle. Medical aids pay for such consultations. ***Multi-disciplinary teams to provide support and information*** - Multi-disciplinary services, exercise, diet and life coaching - Affordable programs to address the root causes of obesity (key aspects of care from a multidisciplinary team including diet, exercise and behaviour modification, mental health, medicines) - Support for single persons who are sick and overweight - Holistic programmes at public hospitals - Community programmes and government employed biokineticists; biokinetics services for individuals to manage obesity safely

Challenges offered by stakeholders	Recommendations offered by stakeholders
continuously communicated to the patients at clinic/hospital level and also at the community level. Lack of awareness on diet/ in-service training	***Enable public understanding of public health care professionals*** - Visible information and promotion of the role and scope of a dietitian - Education on how a healthcare professional can help with obesity - Timeous resources for health days to distribute, increase participation
Lack of resources related to health care facilities Lack of human resources for services; Shortage of human resources; Shortage of staff and high patient load resulting in insufficient time; No support from other health care team members; Not enough qualified professionals; Shortage of dieticians/nutritionists in rural areas; Only Dieticians are trained to educate, counsel and follow up; Finances, access to resources, insufficient/few healthcare facilities; Limited time for one-on-one contact with patients, not time efficient; reluctance of GP's to treat; Lack of investment & involvement from health care. Lack of equipment for services; Lack of medical equipment, budget for development and training	***Ensure necessary screening is done at clinics and hospitals*** - Standardised screening and treatment of those at risk of obesity - Nutritional screening - Free and readily available access for the public to health clinics to screen the body composition (Discovery Vitality) - Assess infants for malfunctioning of the thyroid as routine care - Psychological assessment ***Ensure health facilities have appropriate and workable equipment*** - Consistent supply of good workable scales in health facilities and to INP health professionals.
High costs of support mechanisms Costs limit health screenings and patient access to biokinetics services	
Medical aids do not support obesity prevention Associated costs limit health screenings; patients cannot afford biokinetics sessions; private patients scared to see dietitians, unable to pay for consultations, medical aids do not cover consultations; suboptimal nutritional care to treat/prevent obesity, patients rely on advice given by non-professionals; 200 conditions associated with obesity, first assessment with a HCP in lengthy consultation not reimbursed by Medical aid.	***More engagement and commitment from medical aid schemes*** - Most medical aids, e.g. Parliament medical aid (Parmed) are not funding a weight management programme for their members.