REDUCING SUGAR INTAKE IN SOUTH AFRICA: A MULTILEVEL POLICY ANALYSIS OF HOW GLOBAL AND REGIONAL DIET POLICY RECOMMENDATIONS FIND EXPRESSION AT COUNTRY LEVEL

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Preamble

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List of acronyms and abbreviations

AU	African Union
BMI	Body mass index
CVD	Cardiovascular disease
DMP	Data Management Plan
FAO	Food & Agriculture Organization of the United Nations
GDAR	Global Diet and Activity Research
HIC	High-income country
LMIC	Low- and middle-income country
ICN	International Conferences on Nutrition
ICN2	Second International Conferences on Nutrition
MDG	Millennium Development Goals
NCD	Non-communicable diseases
NGO	Non-governmental organisations
SADC	South African Development Community
SDG	Sustainable Development Goals
SEM	Socio-ecological model
SSB	Sugar sweetened beverages
WHA	World Health Assembly
WHO	World Health Organization
UN	United Nations
UN ECOSOC	United Nations Economic and Social Council
UNGA	United Nations General Assembly
UNSCN	United Nations Standing Committee on Nutrition

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PART A: Protocol

Introduction

In this section, the background and context for the study titled 'Reducing sugar intake in South Africa: a multi-level policy analysis of how global and regional diet policy recommendations find expression at country level' will be presented. The purpose of the study is explained, as well as its rationale, significance, aims and objectives. Detail surrounding the study's specific research questions will also be provided.

Context of the study

Non-communicable diseases (NCDs) are responsible for the vast majority of deaths worldwide (Wang et al., 2016; World Health Organization, 2018a). The rising number of deaths from NCDs are largely attributed to four main diseases; namely, heart disease and stroke, chronic lung disease, diabetes, and various cancers (World Health Organization, 2018d). Three-quarters of all NCD-related deaths occur in low- and middle-income (LMIC) countries, and many of these individuals die prematurely before the age of 70 (World Health Organization, 2018d). The increase in NCDs is attributed to four risk factors: unhealthy diets, lack of physical activity, tobacco consumption, and the harmful use of alcohol ((World Health Organization, 2018d). A diet high in calories combined with inactivity increases a person's risk for overweight and obesity, which together affect around 1.9 million adults worldwide (World Health Organization, 2020b). Of these adults 650 million have obesity, equalling 13% of the world's adult population – triple as many compared to 1975, highlighting the dramatic escalation of this serious health-related problem (World Health Organization, 2020b). Overweight and obesity are metabolic risk factors that can lead to

cardiovascular disease, type 2 diabetes and certain types of cancers (World Health Organization, 2020b).

Unhealthy diets that exhibit high concentrations of artificial sugar (also known as 'free' or added sugars) are documented to influence weight gain and have a detrimental effect on health (Te Morenga et al., 2013b; Malik et al., 2013b). 'Free sugars' are sugars used in a refined form and referred to as monosaccharides (such as glucose, fructose) and disaccharides (such as sucrose or table sugar). These are added to foods and drinks by the manufacturer, cook or consumer, and are sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates (World Health Organization, 2015c) Sugar sweetened beverages (SSBs) or 'sodas', as they are commonly called, have specifically come under scrutiny for contributing to adult and childhood obesity (Te Morenga et al., 2013b; Malik et al., 2013b). These carbonated beverages tend to be exceptionally loaded with sugar and have a greater impact on weight gain than when sweetening agents are added to food (Malik et al., 2013b). The mechanism by which increased sugars are suggested to influence weight gain is through their capacity for higher energy consumption (Te Morenga et al., 2013b). It has been proposed that because SSBs are in a liquid form, when drunk, they have a less filling or satiating effect than solid foods (Te Morenga et al., 2013b). For this reason, a person's caloric intake may be higher when drinking SSBs than when consuming solid food, leading to weight gain (Te Morenga et al., 2013b). New evidence from a large prospective study in 2019 also makes the association between sugary drinks and an increased risk of cancer in adults, strengthening the link between SSBs and NCD risk (Chazelas et al., 2019).

Poor nutritional intake at a young age is another factor that has far reaching negative consequences throughout life – but can be avoided if addressed early in the life course (World Health Organization, 2013a). The long-term effect on life-time health resulting from obesity in childhood has been corroborated in relation to several chronic conditions, including cardiovascular risk and type 2

diabetes (Abarca-Gómez et al., 2017; Poirier et al., 2006; Park et al., 2013; Pires et al., 2014; Skinner et al., 2015; Clausen et al., 2008)).

Effective public health measures have been recommended and introduced in recent years to address the modifiable risk factors associated with overweight and obesity. These measures have sought to help people improve their nutritional intake and increase their participation in physical activity as a means of better managing their body weight (World Health Organization, 2018d). Not least among the measures related to curbing unhealthy diets, is the recommendation to limit energy intake from fats and sugar (World Health Organization, 2020b). Several years ago, on the basis of the scientific evidence available, the World Health Organization (WHO) proposed that the intake of 'free sugars' must be reduced as remedy for the high levels of obesity exhibited in many countries around the world (World Health Organization, 2015c). According to the WHO the guideline for total energy intake per day consists of a maximum of 10% sugar, which is equivalent to approximately 50 grams or 12,5 teaspoons of sugar (World Health Organization, 2015c). South Africans are estimated to consume up to twice this amount daily, of which four to eight teaspoons are from SSBs (University of the Witwatersrand, 2016). The country has also been ranked among the top ten consumers of soft drinks in the world (National Health Department of South Africa, 2016). To slow the rapidly progressing NCD burden in the local population by targeting the factors contributing to high levels of overweight and obesity, the South African government introduced a health promotion levy on SSBs in 2018 ((SARS), 2017). In a policy paper issued by the National Treasury of South Africa, taxes on foods and beverages high in sugar were identified as a very cost-effective strategy to address diet-related disease (2016). The tax is applied to SSBs that contain added caloric sweeteners such as sucrose and high-fructose corn syrup (2016).

Taxation on SSBs are habitually applied to artificially sweetened beverages such as sodas or high-energy drinks, but not on pure (100%) juices containing predominantly natural sugars (Cawley et al.,

2019). Taxes are a fiscal policy tool governments use in conjunction with other intersectoral policies to promote health or influence behaviour and target NCDs (Sassi and Belloni, 2014; Buse et al., 2005a; Cawley et al., 2019). Countries have, in the past, leveraged taxes to deter unhealthy lifestyle behaviours such as tobacco smoking or harmful alcohol use (Sassi and Belloni, 2014). In more recent years, governments have begun adopting fiscal measures in health promotion to restrict the fat, salt or sugar content in foods and beverages (Sassi and Belloni, 2014). Excise taxes on SSBs have proven particularly popular lately, in keeping with their exponential rise over the past ten years (Cawley et al., 2019; Backholer et al., 2018). Excise taxes are usually paid by businesses, which are levied as a fixed amount per unit on a service or product. They are applied for the explicit purpose of reducing consumer demand by indirectly increasing the price of a given service or product (Cawley et al., 2019). Since Mexico introduced an excise tax on SSBs in 2014, Chile, Estonia, Norway, Peru, the Philippines, the Republic of Ireland, South Africa, the UK, and others have taken similar steps (Colchero MA, 2017; Backholer et al., 2018). Prior to this raft of sugar-related legislation, relatively few countries imposed this or any other form of taxation on SSBs as a health intervention.[1] A notable exception is Denmark, a country that introduced a soft drink tax in the 1930s, although the motivation for this policy decision was to increase revenue collection (Chaloupka et al., 2019) as opposed to decreasing sugar consumption. This tax has recently been abolished because of the administrative encumbrance it puts on businesses, which is potentially threatening to jobs. Nonetheless, there are other countries that have, for years, had relevant broader taxes related aimed at addressing unhealthy diets and high sugar intake (Chaloupka et al., 2019).

[1] Another example of this type of fiscal intervention might be the introduction of value added tax (VAT) in the United Arab Emirates, which effectively serves as a consumption tax charged at each point in the supply chain where there is a value mark-up (Blecher, 2015; Chaloupka 2019).

Implementing a tax to limit sugar intake as policy measure for the purpose of improving population health is, in other words, not a novel idea—despite its growing popularity (Sassi, 2016). One reason why it has not been employed more frequently is that – even though it theoretically offers governments an additional revenue source – it is not a particularly 'simple tool' for policymakers to introduce (Sassi, 2016). As Franco Sassi from the Organisation for Economic Co-operation and Development (OECD) explains: "designing excise taxes on sugars engineered to change dietary behaviour is especially complex and then setting them at sufficiently high levels to have effect is politically challenging and increases the risk of unintended consequences" (Sassi, 2016). Excise taxes should therefore be viewed as a single instrument in a policy-toolbox. Take the example of Mexico and Chile; two countries that have successfully integrated SSB excise taxes as part of a broader public health strategy (Sassi, 2016). It is Sassi's view that the primary value of sugar taxes is that they signal to consumers (and the entire food supply chain) that government is serious about the harms associated with unhealthy diets and is serious about addressing them (Sassi, 2016). Acknowledging that taxes are one component in a much broader and complex food system is also a reminder that applying SSB levies has an impact beyond health, with far-reaching effects on employment, investment, and trade among others (Thow and Hawkes, 2009).

South Africa's disease burden and policies to address nutrition-related NCDs

In South Africa, legislation enforcing the taxation on SSBs has been implemented alongside broader public health strategies to curb NCDs and their risk factors among the local population. For example, in 2013 the South African government adopted an entire strategic plan for the prevention and control of NCDs (National Department of Health South Africa, 2013). However, as acknowledged in the strategic plan, South Africa has several competing healthcare priorities. The country is faced with a quadruple burden of diseases that includes a "maturing and generalised" HIV and AIDS epidemic, high levels of tuberculosis; high maternal and child mortality; violence and injuries and NCDs (National Department of Health South Africa, 2013). Novel coronavirus (COVID-19) has added to this

quagmire of competing public health priorities, which is also worsened by obesity and diabetes (Popkin et al., 2020). South Africa has a high rate of obesity, which affects a worryingly high proportion of the adult population. The WHO estimates that 27% of South African adults over the age of 18 have obesity (World Health Organization, 2018c).

As elsewhere in the world, obesity has increased significantly among the population of South Africa over a relatively short time period (Department of Health, 2016). The consequences of obesity tend to impact men and women differently (Department of Health, 2016). Far more South African women (39%) are affected by obesity, compared with men (15%) (World Health Organization, 2018c). Furthermore, overweight and obesity among women poses a potential long-term future public health threat, as a higher body mass index (BMI) in pregnancy has been linked to an increased NCD-risk for their children. High rates of urbanisation in LMICs, including South Africa, have further fuelled concern about the increase of obesity in childhood (Fitch et al., 2013; Department of Health, 2016). South Africa is also plagued by a dual nutritional problem of child malnutrition and adult obesity within the same household (Department of Health, 2016). 13% of children younger than age five are overweight; while 27.4% of children in this same age group have stunting (Global Nutrition Report, 2020).

Together with its Strategic Plan for the Prevention and Control of NCDs (2013–2017) previously mentioned, there is also a National Strategy for the Prevention and Control of Obesity (2015–2020) (National Department of Health South Africa, 2013; Department of Health, 2016). Both these framework documents recognise the seriousness of obesity in the South African context and the important contributory role of foods high in fat and sugar in the resulting obesity pandemic (2016; Department of Health, 2016). As outlined in these strategy documents, the South African government has taken steps to curb sugar intake in the local population and promote healthy diets

to prevent and control NCDs; this includes the enactment of a policy to tax sugar-sweetened beverages (2016).

Literature review

The impact of NCDs and the role of sugar intake and weight gain

NCDs are increasingly common among populations everywhere as their prevalence has risen in recent decades. It is currently estimated that NCDs are responsible for around 41 million or 71% of all deaths each year, making NCDs the leading cause of mortality worldwide (Wang et al., 2016; World Health Organization, 2018a). Many people, especially in LMICs (where the majority of people with NCDs live), die prematurely or at an early age as result of an NCD (World Health Organization, 2018d). Losing a family member or head of the household unexpectedly can have dire repercussions for the well-being of the family as a whole. Furthermore, NCDs are chronic conditions of long-term duration and when not adequately treated early on, may result in a disability. Recent global estimates show that NCDs are attributable for the majority of cases of disability and are, therefore, a significant daily burden on those who live with these serious health conditions, as well as for the family members who care for them (Vos et al., 2016).

Despite the alarming rise in NCDs and the high death toll, NCDs are largely considered to be preventable. The WHO has identified four major NCDs – cardiovascular disease, chronic respiratory disease, various cancers, and type 2 diabetes – as the major contributors to the high number of NCD deaths (World Health Organization, 2013a). They have also advised that these four diseases may be prevented through public policies aimed at addressing four modifiable risk factors: tobacco use, harmful use of alcohol, unhealthy diets, and physical inactivity (World Health Organization, 2018f).

An unhealthy diet is typically regarded as being high in fats, salt, and sugar—constituents that are often found in highly processed or packaged foods (Traill WB, 2017). These foods are generally energy dense but low in nutrients, thereby justifying their reputation as unhealthy. Regularly consuming these types of foods is therefore considered an unhealthy diet, and one that can lead to weight gain (Popkin, 2004; World Health Organization, 2020b) Consuming an excess of 'free' sugars as part of an unhealthy diet, is known to contribute to the likelihood that a person will become overweight or obese, in itself a huge global public health problem that urgently needs to be addressed (World Health Organization, 2015c). A high sugar intake is also associated with having more dental caries (tooth decay), partly explaining why dental diseases are among the most common NCDs globally (World Health Organization, 2015c). Both excess body weight and tooth decay are also risk factors for type 2 diabetes, heart disease, stroke susceptibility, and cancer, and can therefore seriously impact a person's health throughout their entire lifetime (J, 1987; Te Morenga et al., 2013b; Malik et al., 2013a; Yuen et al., 2016; World Health Organization Technical Information Note, 2017). High BMI is linked to more than 200 comorbidities and is regarded as a driver of the NCD epidemic, which is largely preventable (Wang et al., 2016; Yuen et al., 2016).

The dramatic escalation in overweight and obesity worldwide in the short space of several decades is seen as a significant public health problem impacting millions of adults and children (World Health Organization, 2020b). Worldwide trends in BMI from 1975 to 2016 have revealed that women were disproportionally affected compared with men (Abarca-Gómez et al., 2017). In 1975, 69 million adult women had obesity; this figure rose to 390 million in 2016. By comparison, only 31 million men had obesity in 1975 and this escalated to 281 million in 2016 (NCD-RisC, 2017). BMI levels among children and adolescents aged 5 to 19 have also increased in most regions and countries over this period (Abarca-Gómez et al., 2017). Fifty million girls and 74 million boys had obesity in 2016 (Abarca-Gómez et al., 2017). While increases in childhood overweight and obesity prevalence have

been remarkable in developed countries, the increase difference between the sexes appears to have been negligible (Ng et al., 2014).

Changes in dietary consumption patterns in LMICs and underlying causes

NCDs used to be primarily a health concern for richer countries or wealthier segments of society and were associated with 'overnutrition' or the consumption of excess calories (Johnson et al., 2017). Over recent decades, however, a general increase in prosperity has driven a trend for rural to urban migration, with people moving to cities to look for work opportunities. This has led to a change in the type of foods that people consume, which tend to be more energy dense than their traditional diets. Moreover, urban occupations tend to lead people to live less physically active and more sedentary lifestyles (Popkin, 1999) than occupations in the country. Barry Popkin was one of the earliest proponents of the correlation between the change in lifestyles of populations and the rapid emergence of obesity and nutrition-related NCDs, coining the term 'nutrition transition' (Popkin, 1999). Nutrition transition refers to the societal transition from a state of famine to a state of having easy access to processed, energy-dense, non-traditional foods that are high in sugar, salt, and harmful fats. In addition, this transition is seen to be combined with reduced levels of physical activity (Popkin, 2004). While this rural to urban shift took place earlier for developed countries; it is also becoming evident today in developing nations and is said to be accelerating fastest in LMICs where the overwhelming majority of people with NCDs live (Popkin, 2003; Popkin, 2004; World Health Organization, 2018d). As the economies of LMICs have grown more prosperous and trade has liberalised, the change in dietary habits has been accompanied by a geographic shift in the epidemiological burden of NCDs (Popkin, 2003; Johnson et al., 2017). NCDs are a significant contributor to premature death in LMICs, where infectious diseases and injuries still drive up mortality rates, and this combined burden poses a significant challenge for low-income countries

especially (Nascimento et al., 2018). Moreover, this transition is taking place within a much shorter timeframe in LMICs than it did for high-income countries (HICs) (Miranda et al., 2008).

The shift in dietary patterns towards more energy-dense, high sugar, high salt, and high fat foods is frequently referred to as a shift towards a higher fat 'Western diet', where a large proportion of the population derives close to a third of their energy from fat (Popkin, 1993). Depending on region according Popkin, sugar rather fat consumption may be the main driver of increased energy intake (Popkin, 1993). These dietary changes are typically associated with industrial structural changes influenced by economic trends such as globalisation and urbanisation (Popkin, 2004; Popkin, 1999; Buse et al., 2005a). While globalisation has allowed for the easy movement of goods, people, ideas, and finances across borders, and the broad liberalisation of trade (including food imports and availability); it has also had a rapid impact on the food industry. In particular, changes in global production, distribution, and marketing of foods has brought with it some long-term health risks as a result of the preponderance of unhealthy diets (Buse et al., 2005a; Thow and Hawkes, 2009). A challenge for the international community and national governments, however, is that globalisation can be an overly vague and broad term, and this non-specificity undermines the potential of developing viable policy options (Popkin and Gordon-Larsen, 2004).

Two of the main components of globalisation according to the Food and Agricultural Organization (FAO) of the United Nations are international trade and foreign direct investment (FDI) by food manufacturers, which have both escalated sharply in the past couple of decades (Traill WB, 2017). Featured in almost every country is the presence of multinational retailers and food manufacturers, soft drink companies, and fast food chain outlets (Traill WB, 2017). Previously unknown in LMICs, multinationals have introduced highly-developed supply management systems, centralised purchasing and distribution, product differentiation, and specialised marketing techniques, often targeting children (Traill WB, 2017). In addition to making processed foods more widely available,

these developments in the modern food system resulted in a price drop of convenience foods. Traditional staples and vegetables are now competing with processed foods both in terms of consumer preference, convenience (time), and price, and subsequently more processed foods and SSBs are being sold than healthier alternatives (Traill WB, 2017; Magnusson et al., 2019).

The proliferation of multinationals is well documented. Less widely discussed is the growing global inflows of FDI in the food sector, which apparently have flowed largely into readily available and processed foods (e.g. beverages, snacks, and breakfast cereals) (Traill WB, 2017). In LMICs, trade and investment liberalisation – which have led to greater FDI, imports and advertising – are identified as the underlying economic activities driving the availability and purchasing of these types of food commodities (Magnusson et al., 2019). In a study on the impact of trade liberalisation for diet and health in Central America, Thow and Hawkes (2009) observed that lowering barriers to investment appears to have been a critical factor in the expansion of processed food markets and in facilitating the nutrition transition as well as the consequent rise in overweight, obesity, and NCDs in Latin America (Thow and Hawkes, 2009). Supermarkets have helped redefine the organisation of supply chains and patterns in consumption for countries generally, but also specifically in the Latin American region where they deliver 50 to 60 percent of retail food sales (Traill WB, 2017). These trends are mirrored in other regions, including Africa and South Africa where there has been substantial liberalisation of the economy since 1994 and substantial growth in the number of supermarkets in the intervening years (Traill WB, 2017).

The other significant development affecting people's nutritional status and health is urbanisation. More than half the world's population are reported to live in urban areas and this upward trajectory is predicted to continue in both HICs and LMICs. However, the rate of urbanisation is expected to be higher for LMICs than in more advanced economies (Ritchie H and Roser M, 2019; Elsey et al., 2019). In South Africa, urbanisation accelerated post-1994, as mobility restrictions eased, and today about

two-thirds of the population reside in urban areas, making it one of the continent's most urbanised countries (Rauch et al., 2016). Furthermore, it is urban areas where the transition to NCDs appears to be most evident, which, as already pointed out, may be attributed to the fact that urban-dwellers are reported to be less physically active daily and more likely to consume calorie-dense diets that are high in sugar, salt, and fats due to the easy-access of cheap packaged and/or fast foods (Popkin and Gordon-Larsen, 2004; Elsey et al., 2019). Not only are urban areas considered to fuel the determinants of health, but urbanisation *itself* has been identified as a determinant of health (Elsey et al., 2019). Furthermore, the onus of leading the response to these determinants frequently falls to local government in its oversight of water and sanitation services, transportation infrastructure, planning, and development (Elsey et al., 2019). Yet, it is also this level of government in LMICs that is most poorly capacitated in terms of funding and skilled resources to solve these multifaceted challenges (Elsey et al., 2019).

Poverty and overburdened health systems

LMICs may be better off economically than they were before, but there are still high levels of poverty, particularly in sub-Saharan Africa (and including South Africa where approximately 40% of the population live below the poverty line (World Bank, 2018; Stats SA, 2019). In these countries, the health system is often weak and plagued with problems due to under-resourcing and is generally orientated towards treating infectious diseases such as human immunodeficiency virus (HIV) and tuberculosis (TB) (World Health Organization, 2018f). People living in LMICs may, therefore, have inadequate access to medical care and health promotion to prevent NCDs and as a result, are being disproportionality affected by NCDs (World Health Organization, 2018f; World health Organization, 2017b). The vast majority of premature deaths from NCDs occurs in LMICs where individuals have double-the-risk of dying early, compared with their counterparts in wealthier parts of the world (World Health Organization, 2018f). Premature deaths from NCDs tend to strike people during their most productive years, and when this happens to the breadwinner of the household, it can be

financially catastrophic for the rest of the family (Niessen LW, 2018). There is strong evidence that NCDs are inextricably linked with poverty and the social determinants of health in LMICs (Niessen LW, 2018).

Aside from being the cause of much human suffering everywhere, NCDs are also costly to treat, and potentially place a substantial economic burden on individuals, families, and society (Bloom et al., 2012). In LMICs, however, due to the high cost of healthcare for conditions such as NCDs, individuals and families who already struggling to cope financially are pushed further into poverty by unaffordable medical expenses (McIntyre et al., 2005). The Lancet's 2018 taskforce on NCDs and economics found that "poverty stems from and exacerbates the burden of NCDs" (Nugent et al., 2018). The impact of poor social and economic circumstances further affects lifetime health (Niessen LW, 2018). Furthermore, economic, technological, and social changes leading to obesity and nutrition-related diseases are reportedly happening at a greater speed and at an earlier stage of development in LMICs than has happened in previous decades for higher-income Western countries (Popkin, 2002). As a consequence, LMICs have the unique scenario where undernutrition and overnutrition can affect members living in the same household. Developing countries that are still addressing undernutrition as major health problem, therefore now have the added responsibility of addressing NCDs too (Popkin, 2002). Ultimately, it is the poor who are likely to bear the greatest future burden of the health transition (Popkin, 2003; Niessen LW, 2018).

Addressing modifiable risk factors to control and prevent NCDs

The food and lifestyle choices that individuals make are shaped and influenced by their environment, which is in turn an expression of the social, economic, commercial, and political determinants present within a particular community, region, or country, as well as globally. Therefore, a person's health is determined by the interplay of a wide variety of social, economic, and

cultural factors (Buse et al., 2005a). These factors range from the personal-level (such as an individual's genetic make-up or sex, income level, social status, level of education, or behavioural choices), to the environmental- and social-level; all of which impact a person's choices and their health. Examples of the latter include where a person lives or works, the social support networks around them, and their access and use of health services. Historically, the individual has been considered to be the focus for health-related behavioural change. A person's capacity to enact behavioural changes, such as reducing their fat, sugar, and salt intake, doing physical activity to improve weight loss, and quitting smoking tobacco, have all traditionally been thought of as falling within the remit of individual responsibility (World Health Organization, 2013a). However, as a result of global recognition thereof, policymakers in LMICs too now acknowledge that the causes of NCDs are multifaceted, with their development influenced by a combination of genetic, physiological, environmental, and behavioural factors (World Health Organization Regional Office for Africa, 2020). Therefore, a singular intervention or approach is no longer regarded as the answer to addressing the problem of NCDs. Instead, modern wisdom advocates multi-level interventions to target unhealthy lifestyles and the risk factors for NCDs such as overweight and obesity, while also taking into account different spheres of influence on a person's life, including their life phase.

There are several theories and clinical perspectives that provide insights into how to influence individual behaviour by modifying cognitive, affective, and behavioural processes for improving health-related outcomes (Stokols D., 2000). While behaviour change models certainly have their place in ensuring optimal health, and individual responsibility is certainly an important component thereof, the thinking among the public health community has broadened to acknowledge that a person's choices are strongly influenced by multiple complex and interwoven factors. These factors are shaped by a person's circumstances and environment, which are acted on by wider external forces such as the market economy and global food system (Mozaffarian et al., 2018; Swinburn et al., 2011; Afshin et al., 2015). Currently, this perspective that there are multiple layers of influences

on a person's food or lifestyle choices informs population-level approaches on the prevention and control of NCDs. Several multilevel theoretical frameworks have been developed to explain the reciprocal relationship between individuals and their environments. It is worth noting that behaviour both influences and is influenced by the social environment in causing health or illness (Bronfenbrenner, 1979; Bronfenbrenner and Morris, 2006; Glanz et al., 2008; Krieger, 2001; Stokols, 2000; Tseng and Seidman, 2007).

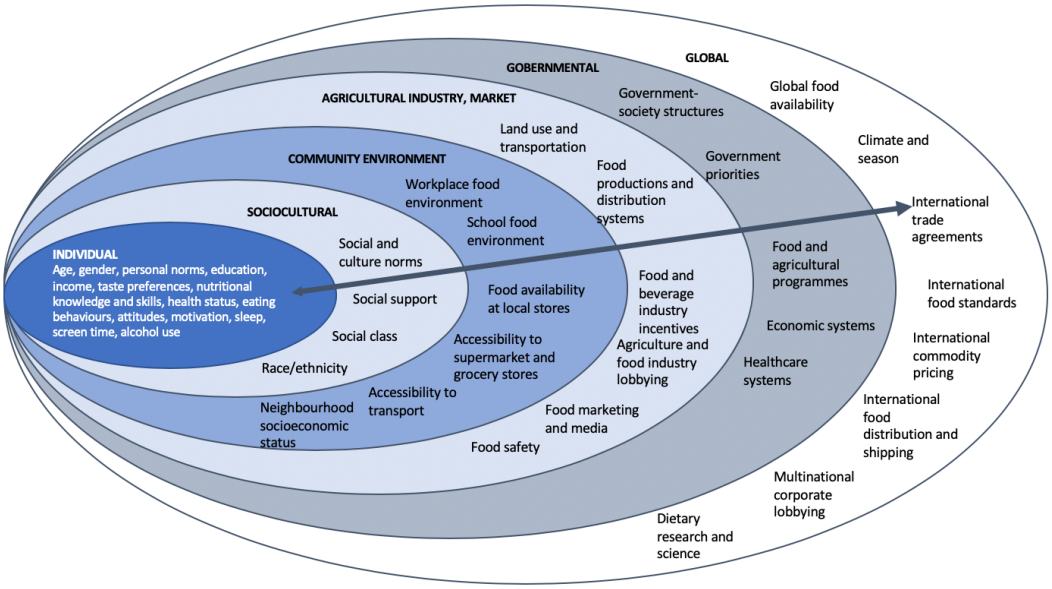
The socio-ecological model for addressing population health challenges

The socio-ecological model (SEM) is often used or adapted for understanding or achieving behavioural and social change towards healthy lifestyles (McLeroy et al., 1988). For instance, in the United States, the Centers for Disease Control and Prevention (CDC) recommends that healthcare practitioners use the SEM for addressing obesity (Centers for Disease Control and Prevention, 2012). The model also features in the Dietary Guidelines for Americans (2015–2020) (Dietary Guidelines Advisory Committee, 2015). The widely accepted belief among healthcare practitioners is that public health challenges such as encouraging people to exercise regularly or improve their diet require comprehensive approaches that integrate psychological, organisational, and cultural factors, as well as community planning and regulatory perspectives (Stokols D., 2000; McLeroy et al., 1988). The foundations for this model and belief stem from the ecological approach, which was originally developed to promote the understanding of the interplay between various personal and environmental factors, and is based on the idea that these challenges are too complex to be understood from single levels of analysis (Stokols D., 2000).

The SEM model consists of five nested hierarchal levels; namely, (1) the individual (knowledge, attitudes, beliefs, and behaviours), (2) interpersonal (family, peers, social networks, and associations), (3) community (formal and informal social networks and social support systems), (4) institutional or organisational (formal and informal rules and regulations for operations), and (5)

policy/enabling environments (local, state, and national laws and policies). It is through understanding how each of these levels influence food and beverage intake, physical activity, and eventual health outcomes that the SEM model seeks to guide effective interventions (McLeroy et al., 1988; Centers for Disease Control and Prevention, 2012). Furthermore, what the SEM model helps to show for the prevention and control of NCDs is that opportunities exist for intervention at various levels. These are broadly divided into the micro- or individual-level, the institutional- or meso-level, and the 'macro-' or strategic/organisational level (Stokols D., 2000; Centers for Disease Control and Prevention, 2012). Policy decisions made at the macro-level have the largest impact as they affect factors related to population health. This is the level at which national government is situated. Afshin and colleagues, in their adaptation of the SEM in relation to dietary policies aimed at NCD prevention and control, also identify a global-level of organisation (Afshin et al., 2015). Their adapted version of the SEM depicts the potential barriers, facilitators, and outcome modifiers of food policies that governments should consider as influencers of food choices across the hierarchical spectrum, from that of the individual to the global-level (Afshin et al., 2015). At the global-level, they identify food availability, international trade agreements, food standards, commodity pricing, food and distribution, multinational corporate lobbying, and dietary research and science as relevant factors (Afshin et al., 2015). Recommendations and policies originating at this level of global organisation – whether in connection with the aforementioned, or in other sectors, such as health – dictate the types of guidelines and policies adopted at a country-level.

Figure 1: Barriers and opportunities for healthy eating (Afshin et al., 2015)



However, for policies improving nutrition to have the greatest impact and for sustained healthy behavioural change, an enabling environment is strongly recommended (Mendis, 2010). This type of environment is determined by national, provincial and local policies, and legislation, which provide a set of conditions or framework for stakeholders and supports the availability and accessibility of healthy food choices in various settings. Building an enabling environment requires that health should be at the heart of deliberations around sector-wide public policies in agriculture, education, finance, social services, transport, and trade (Mendis, 2010(Mendis, 2010). Likewise, the FAO recommends that all government sectors should be fully involved if policy measures by governments to prevent obesity are to be effective (Food and Agriculture Organization of the United Nations (FAO), 2018). In other words, for governments wishing to provide people with opportunities and affordable choices guiding them towards healthy behaviours in relation to diet and physical activity, tobacco and alcohol use, it is advised to develop a supportive inter-sectoral policy environment or 'whole of government' approach (Unwin et al., 2017; Mendis, 2010). This approach relies on the cooperation between government agencies or divisions of government to make it work. From the literature reviewed, it is apparent that the current common viewpoint is that intersectoral public

policies embedded at different levels of government are necessary to enable individuals to make healthier lifestyle choices. Without this, it will not be possible to formulate a coherent public health response in dealing with this complex problem and eliminating NCDs.

With this said, it also must be acknowledged that things do not always work out as they are intended, especially when there are so many variables to consider. The best intentions for improving public health may have unintended consequences or may not achieve the expected outcomes, highlighting that the coordination and implementation of effective policies is not necessarily straightforward. Even before the policy process is initiated, there are questions that need to be considered regarding why some ideas related to the health problem and the type of solutions brought forward come to be recognised as important and appropriate, while others are discarded. In addition, for a variety of reasons, countries take direction on health policy from the global health agenda. Understanding the scope and reach of global organisations such as the United Nations (UN) and the WHO in driving the agenda on health forward at both a global- and country-level, is therefore critical for a policy analysis of this nature. Public policies that take their cue from the WHO, for example, may take different forms or be expressed in different ways, depending on local interpretations. Sometimes policies are adopted wholesale, and at other times only in part by a country or local regional authority in a different setting. However, before delving into the governance arrangements at a global- and regional-level, or the role of ideas in the health agenda, it is first necessary to clarify what is understood by policy and what the policy process entails. This is the subject of the next section.

Understanding the policy process in promoting healthy eating habits in LMICs

Public policies help to shape the decision-making environment and the everyday choices people may make. Broadly speaking, policies reflect the decisions taken by those with responsibility for a given policy area (for example, in health, trade, or the environment) (Buse et al., 2005a). A policy may be "a formal written document, rules or guidelines" (Buse et al., 2005a). In health, this policy statement would present the policymaker's decisions about what actions are judged to be legitimate and necessary to strengthen the health system and lead to better health outcomes for the people it represents (Gilson, 2012). It is also possible for policies to be informal, unwritten practices that develop as the formal statements of intent are translated into practice by decision-makers or policy actors at various hierarchical levels of the system, including national or local government, or institutions such as hospitals (Buse et al., 2005a; Gilson, 2012). Because policy decisions often represent the direction taken to satisfy stakeholder's concerns or are an expression of their power, policymaking may be referred to as a political process underpinned by values and principles—whether these are made explicit or not (Exworthy, 2008; Ritsatakis and Järvisalo, 2006; Buse et al., 2005b).

A heuristic approach to policy development

One way to conceptualise the policy process is as sequence of events in linear order, beginning with how issues are prioritised for inclusion as part of the policy agenda and then how these issues progress once there (Buse et al., 2005a; Walt and Gilson, 1994). The 'policy stages' or 'the stages heuristic' model sees the policy process as made up of four stages: problem identification and issue recognition (agenda setting), policy formulation, policy implementation, and policy evaluation of the best-case scenario in terms of cost and outcomes to achieve the established goals (Jenkins-Smith and Sabatier, 1993; Buse et al., 2005a; Hogwood et al., 1984). However, experience has shown that

technical interventions designed to follow this convention are not able to solve difficult socio-cultural problems and that, in reality, the policy process is more complicated and characterised by "political contestation involving conflicts, negotiation and interpretation" (Pressman and Wildavsky, 1973). This has led policy analysts to consider the policy process as a "complex social process" and develop other models (Gilson, 2012).

Although the policy process is not always rational or even linear, a heuristic or stages model still offers a useful orientation tool for the trajectory that a policy process may follow. It can further be used in conjunction with other policy frameworks when thinking about the progress over time from problem recognition to implementation and evaluation of successful policies that address NCDs. Moreover, some policy analysts, such as Dahlgren and Whitehead who applied the 'stages' in relation to the social determinants of health, have tried to clarify and explain the complexity of the policy process within a heuristic framework (Dahlgren et al., 2006). They have done so by indicating potential points at which a policy may breakdown through the use of feedback loops (Dahlgren et al., 2006). An example is where awareness is raised about an issue and there is a concern, but an obstacle such as a mental block prevents the issue from moving forward on the policy agenda, defaulting instead to more awareness raising or stalling of the issue altogether (Dahlgren et al., 2006). Ritsatakis and Järvisalo have adapted Dahlgren and Whitehead's model by considering how health aspects that include a focus on addressing health determinants can be introduced into all policies across sectors (Ritsatakis and Järvisalo, 2006). Their conceptualisation of the stages, while similar to Jenkins-Smith and Sabatier's (1993) model, differs in one key aspect: it explicitly recognises the need to faciliate collaboration across various sectors with those able to influence the determinants (Ritsatakis and Järvisalo, 2006).

Walt and Gilson's (1994) health policy triangle framework

The heuristic model provides a useful way for understanding how the policy process unfolds. Nonetheless, a more comprehensive approach for making sense of the policy experience is the Walt and Gilson health policy triangle (Walt and Gilson, 1994). Health policy analysts in LMICs most often use this framework (Gilson and Raphaely, 2008). Walt and Gilson's health policy triangle proposes that 'policy' can be understood in terms of context, content, process, and power (Walt and Gilson, 1994). The framework aims to show simply a complex set of inter-relationships, taking into account that policy and policy processes are "contested, involving multiple actors, with different concerns, interests and values", and that these are often in competition with one another (Walt and Gilson, 1994).

An array of factors influence and shape the health policy environment. Factors related to context such as changes in political regime or ideologies, historical experience, or culture are varied (Walt and Gilson, 1994). The health policy environment also differs between country-settings. As Walt and colleagues highlight, policymakers from low-income countries are more likely compared with their counterparts in middle or high-income countries, to contend with a health policy environment that has "weaker regulations, regulatory capacity and monitoring systems; lack of purchasing power as a leverage to influence types and quality of services delivered; more patronage in political systems, and more reliance on external donor funds" (Walt et al., 2008). These multiple factors influence the decisions, actions, and efficacy of those involved in the health policy process, namely the actors (Walt and Gilson, 1994). The actors may be individuals or members of groups.

Actors, their position in power structures, and their own values and expectations, in turn affect the process of policy and the content of policy will echo some or all of these dimensions (Walt and Gilson, 1994). Actors are considered as the centre of the health policy triangle with "context", "process" and "content" being the three points (Walt and Gilson, 1994). Content refers to the forms

and focus of policy and policy analysis (Walt and Gilson, 1994; Exworthy, 2008; Gilson, 2012). Janovsky and Cassells distinguish between technical and institutional policies as part of content (Janovsky and Cassels, 1996). According to Walt and Gilson, the traditional focus of analysis on the content of policy often disregards the other dimensions of process, such as actors and context (Walt and Gilson, 1994). This omission may make the difference between effective and ineffective policy decisions and implementation (Walt and Gilson, 1994). The donor-recipient relationship, where a power differential is likely to exist, draws attention to the question of power in decision-making in the policy process. Power is inherent in the policy process by virtue of the fact that actors seek to promote their own interests and ideologies (Buse et al., 2005b). The actual distribution of power is, to some extent, reliant on both the "content of policies and policy context" (Buse et al., 2005b).

Public policy has been described as the broad framework – containing not only the ideas expressed in the content of policies but also the values – in which decisions and actions are taken by policymakers to address an issue or problem (Brooks, 1989). Like Walt and Gilson (1994), Ritsatakis and Järvisalo also acknowledge the importance of values or principles in health that shape the policy agenda, and which are commonly accepted and generally referred to in policy documents issued by global organisations such as the WHO and the UN (Ritsatakis and Järvisalo, 2006). In addition to values, fear can also act as an incentive for intersectoral action, for example, in response to an emergency health outbreak (Ritsatakis and Järvisalo, 2006). On the other hand, little is known about how values are being implemented into practice by the various sectors, especially where the objectives and aims may be conflicting with a sector's own prioritisation (Ritsatakis and Järvisalo, 2006). For example, Dahlgren and Whitehead highlight that there is a substantial gap between policy statements to reduce social inequities in health and the actions needed to attain this objective (Dahlgren et al., 2006). In trying to understand the gaps that may occur between policy intention or statement, and how this plays out in the policy process, one can examine the notion of policy transfer. There are two elements to this: first there is the content of the policy being transferred;

second there is the actual process of policy transfer. This second element relates to the mechanics of the transfer—where was policy transferred from and to whom? How did transfer take place? This topic receives attention in the following section.

Policy transfer

Policy transfer is a concept that originated from the political science and international relations literature and has been applied to social sciences, education, and to a lesser extent to health (Stone, 2012). It first gained prominence in the UK as the importance of ideas in policy change was explored. Richard Rose in his paper on 'lesson-drawing' asked the question: "under what circumstances and to what extent can a programme that is effective in one place transfer to another" (Rose, 1991a). Lesson-drawing happened, Rose said, when policymakers began to express dissatisfaction with the status quo and took decisions that a programme from elsewhere could be put into effect within their local policy environment (Rose, 1991a). Rose further proposed five ways of drawing lessons: copying (adoption more or less intact); emulation (adoption, with adjustment for different circumstances); hybridisation (combined elements from two places); synthesis (combination of familiar elements drawn from three or more different places); and inspiration (new programme developed, intellectually influenced by programmes elsewhere) (Rose, 1991a).

Dolowitz and Marsh observed that technological advances had enabled policymakers to communicate more easily and quickly with one another and that policy transfer among settings was accelerating (Dolowitz and Marsh, 2000). Despite this trend, they felt that the concept of policy transfer was not yet fully articulated (Rose, 1991a). Therefore, they provided the explanation that "policy transfer, emulation and lesson drawing all refer to a process in which knowledge about policies, administrative arrangements, institutions etc. in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place"

(Rose, 1991a). They also developed a conceptual framework that drew on policy diffusion and lesson-drawing and incorporated these concepts within a broader frame of 'policy transfer' (Dolowitz and Marsh, 1996; Dolowitz, 1996). This was achieved by interrogating the policy transfer process with a series of questions, which then informed their model (Dolowitz and Marsh, 1996). The questions were: "What is policy transfer? Who transfers policy? Why is there policy transfer? What is transferred? Are there different degrees of transfer? From where are lessons drawn? What factors constrain policy transfer?" (Dolowitz and Marsh, 1996). Their work focused on identifying voluntary or coercive mechanisms or drivers of success or failure of the policy transfer process by looking at the actors involved, at what was being transferred, and to what extent policies are copied in different settings (Dolowitz and Marsh, 2000). If elites see value in ideas from another setting and chose to import these ideas, then a policy transfer is considered as voluntary (Shiffman et al., 2004). In contrast, a powerful organisation such as the World Bank may place conditions on loans to coerce countries into adopting particular practices (Shiffman et al., 2004). A third way ideas could penetrate national systems is via structural forces, through a process known as 'convergence', but where elites are not involved (Shiffman et al., 2004).

James and Lodge (2003) offer a critique of Dolowitz and Marsh's (1996) model, pointing out that the policy transfer model is very difficult to separate from other forms of policy-making. They argue that policy researchers will find it a challenge to form clear measures of practical use for assessing claims about changes in the importance of 'transfer' (James and Lodge, 2003). A possible solution they suggest is to focus on certain elements of the 'policy transfer' concept and to develop clearer measures of what 'transfer' might be (James and Lodge, 2003). Broadly-speaking, according to Gilson, Orgill, and Shroff (2018) "there can be a transfer of ideologies, ideas and policy goals or more specific policy content, programmes or instruments" (Gilson, Orgill, and Shroff, 2018).

Figure 2 : Policy transfer framework (Dolowitz and Marsh, 2000)

Want to	Why transfer?	Have to	Who is involved in Transfer	What is transferred?	From Where		Degrees of Transfer	Constraints on transfer	How to demonstrate policy transfer	How transfer leads to policy failure
Voluntary	Mixtures	Coercive			Past	Within-a-nation	Cross-national			
Lesson drawing (Perfect Rationality)	Lesson drawing (Bounded Rationality) International pressures (Image) (Consensus) (Perceptions) Externalities Conditionality (Loans) (Conditions attached to business activity) Obligations	Direct Imposition Pressure groups Political parties Policy entrepreneurs Experts	Elected officials Bureaucrats Civil servants Institutions Ideologies Attitudes / cultural values Consultants/ think tanks/ transnational corporations Supranational institutions	Policies (Goals) (Content) (Instruments) Programmes Negative lessons	Internal Global	State Governments City Governments Local authorities	International Organizations Regional State Local Governments	Copying Emulation Mixtures Inspiration	Policy Complexity (Newspaper) (Magazine) (TV) (Radio) Past Policies Structural institutional feasibility (Ideology) (cultural) (proximity) (technology) (economic) (bureaucratic) Language	Media Reports (Commissioned) (Uncommissioned) Conferences Meetings/Visits Statements (written) (verbal)	Uniformed transfer Incomplete transfer Inappropriate transfer

Where are policies transferred from?

Learnings from policies, their content, or particular components of a policy can be sourced either from within a political system or organisation, or from external sources outside of a particular entity (Benson and Jordan, 2011). The literature has focused predominantly on 'peer-to-peer' transfer between national governments (Stone, 2012). Even the use of the term "policy transfer" according to Diane Stone implies a direct "import–export" exchange between countries that suggests an implicit bilateral relationship (Stone, 2012). However, this focus has expanded with the call by Dolowitz and Marsh (1996) for actors to also examine their own policy context for success and failures when seeking to innovate (Dolowitz and Marsh, 1996; Benson and Jordan, 2011; Stone, 2012). Therefore, as the discussion around policy transfer has matured, more 'non-state policy transfer' is also being explored in the literature (Benson and Jordan, 2011) (Stone, 2012). Subsequently, there has also been a substantial focus on the role of international organisations as well as on the agents responsible for policy diffusion such as think tanks and private sector consultants or networks, which reach beyond national borders and state actors spreading ideas and information (Witter et al., 2019; Benson and Jordan, 2011). International agencies are often seen as important because they activate interest and resources around issues that influence 'when and how'

a policy is conceptualised (Witter et al., 2019). International organisations have established a variety of instruments that promote policy learning cross- and transnationally and there are an array of policy intermediaries that operate above and between states working to persuade and facilitate the translation of policy (Stone, 2012). Consequently, there is complex web in which policy translation occurs and where translation and mean-making take on their own dimension of power.

Gilson, Orgill, and Shroff (2018) caution that transfer may not always be complete or appropriate (Gilson, 2018). Generally when this happens, insiders are involved such as politicians, civil servants, and party officials—or outsiders, such as think tanks and pressure groups, or global players, such as policy experts, international non-governmental organisations, and supranational governmental organisations (e.g., the WHO or FAO) (Gilson, 2018). Alongside this, mechanisms of policy transfer that have emerged in the literature include learning, coercion, socialisation, and competition (Witter et al., 2019). On the other hand, Hulme argues that the most important contribution of existing work on policy transfer is that it provides an opportunity to clarify the processes of policy change and provides a "multi-level framework of policy analysis for exploring the movement of policy ideas and practices at three levels, namely the global, domestic governance level and inter–organizational level" (Hulme, 2005). Thus, the assimilation of policy transfer research into a broader field of multi-level governance has exposed alternative ways in which inter-institutional transfer is taking place both vertically (extending upwards and downwards from national to sub-national levels), and horizontally (between different political levels) beyond nation-states (Benson and Jordan, 2011; Keating et al., 2012). Benson and Jordan (2011) make the conclusion that "policy transfer is in this way a useful empirical concept that easily crosses over between sub-disciplines and analytical contexts" (Benson and Jordan, 2011).

This research will focus on the transfer of ideas or policy content in relation to diet and the prevention on NCDs – in particular any mention of sugar intake – and also identify aspects of

governance that may be proposed, influenced, or instituted to actualise this process. Several *a priori* themes will be identified based on the literature written on this topic. These will be used to help categorise and draw meaning from the policy documents—for example, in terms of offering an explanation as to why certain ideas have been retained while others have fallen away at a national level. Themes would include identification and understanding NCDs and their risk factors; the nature of the policy proposals on diet and nutrition in relation to components such as health promotion, marketing and labelling, and trade and fiscal policies; and issues of governance including leadership and accountability commitments towards resources to be made available. The Dolowitz and Marsh policy transfer framework will be used in conjunction with a thematic approach to explore the process and the role of actors as far as permissible within the scope of the policy documents (Dolowitz and Marsh, 2000). A slight adaptation to the framework will include whether or not multilevel policy transfer has occurred.

Health policy transfer and LMICs

A review of what, why, and how health systems in LMICs learn from one another revealed the "agency of national and sub-national players and the importance of developing local institutions for gathering, filtering and sharing evidence, locally as well as south–south" (Witter et al., 2019). Among the barriers cited were a lack of accountability and weaknesses in supervision at middle-management. Other barriers included politicised priorities and institutional constraints on sharing and accessing information, as well as a lack of capacity to use evidence that resulted, for instance, in a lack of adaption of policies from surrounding regions (Witter et al., 2019). In addition, it was noted that "pressures and ideas coming from international actors are not always supported by international consensus and even at times these different actors may provide conflicting advice" (Witter et al., 2019). Those interviewed also mentioned that while there is good access to policy documents online, it may be a challenge to access and time-consuming to go through. Lack of access

to practical information, such as trends in NCDs, were additional constraints that were identified (Witter et al., 2019).

Diane Stone (2012) in her discussion on the transfer and translation of policy states that even the adoption of "simple ideas is remarkably complex" (Stone, 2012). Reflecting on the policy transfer literature and translation of policy, Stone highlights the role of policy learning and the fact that in translation from one context to another there is also a space of disruption at different points from creation and transmission to interpretation and reception. She further iterates that there has been a shift from previously more rationalist approaches towards an increased awareness of the role of context. Subsequently, Stone reasons there needs to be more in-depth analysis of the political context in to which ideas become inserted. At present, there is scant emphasis in policy transfer literature as to why and how certain types of transfer take place in certain contexts (Benson and Jordan, 2011). However, policy ideas imported are also subjected to existing policy processes and local sociocultural conditions (Stone, 2012). Thow (2011), who examined the process and politics of implementing taxes on SSBs and lessons learnt from the Pacific, echoes "policy processes are unique to individual countries" and these characteristics may affect the lessons drawn (Thow et al., 2011).

Policy transfer is more often referred to in the literature from health policy analysis as a top-down process from international to lower levels of governance or between nation-states (Gilson and Raphaely, 2008). Several authors have also highlighted transfer is not necessarily bilateral, pathways can be flow between sectors, in different directions and even by-pass central institutions of national governance (Evans and Davies, 1999; Hulme, 2005; Stone, 2001; Constantine and Shankland, 2017). While less commonly mentioned, ideas at the national level have international policy (Gilson and Raphaely, 2008). Walt et al. point out that not only is policymaking becoming more "deliberative" (less one-directional from top to bottom, more interpretive and involving extended networks, values and beliefs); it is also more "increasingly populated complex cross-border, inter-organizational and

network relationships" (Walt et al., 2008). Therefore, they propose researchers doing health policy analysis will need to apply existing frameworks and theories of the public policy process more broadly to make sense of the complex and fluid environment through a systematic approach where "clear and testable propositions" of the subject of interest are made within explicit frameworks (Walt et al., 2008). Doing this, will also help advance the field of policy analysis. They also recommend borrowing theories from other fields outside of policy studies (notably social science) to benefit health policy analysis.

For our research, we plan to use an empirical conceptual framework more often associated with other fields of policy research than health. Albeit several studies from LMICs – mostly in reproductive or public health – have used a policy transfer lens. Popular frameworks used are the Walt and Gilson (Walt and Gilson, 1994) health policy triangle, Kingdon (Kingdon and Thurber, 1984) or actor networks (Schneider et al., 2006). Gilson and Raphael (2008) in their assessment of the body of health policy analysis work in LMICs, however, suggest that further to generating a greater volume of output; researchers should also consider incorporating "rigorous synthesis of existing more coherent bodies of work" for example in policy transfer (Gilson and Raphaely, 2008). The research focus for this study is on how ideas find expression at lower levels of governance, in particular the national level where strategic and population-level decisions related to health and wellbeing are made. The conceptual policy transfer framework chosen for this research places a strong emphasis on the national context and therefore lends itself with some adaptation to our purpose of exploring the uptake of policy ideas emanating from global governance at the national and sub-national levels. Furthermore, in LMICs international agencies tend to play a strong role in shaping national policy, often linked to donor funding and using the chosen conceptual framework provided a structured approach for examining the extent to which global dictates influenced country-level policy action in the NCD area, and in this instance on the much-contested area of sugar reduction as a possible intervention in reducing overweight and obesity.

To the best of our knowledge the conceptual framework proposed for this study has not been applied within the context of health policy analysis and LMICs, as yet. Nor has policy transfer has been examined in relation to diet and the prevention of NCDs or the specific subject interest of this study.

Conceptual framework for understanding policy transfer leading to recommendations and policies promoting healthy diets and limiting sugar intake in South Africa

The Dolowitz and Marsh policy transfer framework will be used in analysing the relevant policy documents in this paper (Dolowitz and Marsh, 2000). The reasons for applying a conceptual model in health policy analysis is that it can provide tools to "describe, understand and explain" the process (Walt et al., 2008). Focusing on a conceptual model can, according to Walt et al. (2008), avoid two particular issues that may arise when doing health policy analysis. The first problem they highlight is that most policy practice emanates from high income countries where most research has taken place (Walt et al., 2008). These practices are 'transferred' to LMICs without too much critical consideration (Walt et al., 2008). The context and nuances of individual policies differ, however, and this presents a challenge for generalisability between settings (Walt et al., 2008).

Interventions and policies often do not generate the same impacts over time and in different places due to the complex causality that results from the open nature of health systems, meaning that "there are multiple, interacting influences over them and embedded in them" (de Savigny & Adam, 2009; (Gilson, 2012). Thus, exporting policies within or between countries is often disregarded on the basis that the contexts are too different and, as a result, lessons from host countries cannot be learnt (Walt et al., 2008). In their view, employing a conceptual model can overcome these difficulties by addressing key issues such as power and resistance (Walt and Gilson, 1994). Therefore, making use of a framework to apply concepts to the policy process enables a researcher to

discriminate between “meanings and motives, similarities and differences in patterns and practices across context” (Walt et al., 2008). The second issue identified relates to the social determinants of health, which present specific obstacles for the policy process (Walt et al., 2008). The presentation of the social determinants of health and the policy context in each country means that classic policy frameworks are adapted to local contexts (Walt et al., 2008). There are studies, mostly in the area of reproductive health, that Gilson and Raphael have identified in their survey of health policy analysis in LMICs where international-national policy transfer in LMICs is discussed (Gilson and Raphaely, 2008). This group of articles is mainly concerned with those factors of the policy process that influence how internationally promoted policies get implemented nationally and locally (Gilson and Raphaely, 2008).

The role of ideas and the analysis of discourse in agenda setting and policymaking

The concept of ‘ideas’ in policy science stems from a traditional political science framework that distinguishes between three general categories of influence on the policy-making process: ideas, interests, and institutions (Hall, 1993; Lavis et al., 2002; Surel, 2000; Shearer et al., 2016). The role of ideas refers to “research and also other types of information, content and strength of actors’ values and knowledge in the policy process” and came to be emphasised as researchers began interrogating how multiple factors interact to affect policy (Lavis et al., 2002)Majone, 1989; Stone, 1989). Ideas determine which aspects of an issue and which potential solutions will be given attention and serious consideration, and in this way influence agenda- and priority-setting at global- and national-levels, as well as policy formulation and implementation (Hall, 1993; Surel, 2000; Shiffman and Smith, 2007; Sabatier and Weible, 2014). When a group of ideas or “patterned way of thinking” can be identified in textual and verbal communications, and located in wider social structures, then it may be defined as a discourse (Lupton, 1992). This definition, which also applies

to discourse analysis, refers to how individuals and institutions converse through written text and spoken word (Lupton, 1992). Lupton describes discourse analysis as a linguistic approach to understanding the relationship between language and ideology. Even more, it provides a means for decoding dynamics of power embedded in aspects of language such as syntax, style, and various other rhetorical devices used in texts (Lupton, 1992).

A broader interpretation of discourse is that it is a "belief, practice or knowledge that constructs reality and provides a shared way of understanding the world" (Yazdannik et al., 2017). This can be extended beyond a single shared paradigm to explain social change as the result of competing discourses seeking to influence society. Thus, structural changes in the society can be thought of in terms of shifts in the persuasive power of different discourses (Sharp and Richardson, 2001). These struggles between competing economic, social, and environmental discourses are the forces that potentially structure debates around policymaking (Sharp and Richardson, 2001). This conceptualisation of discourse is based on a Foucauldian view where various discourses and competing groups of ideas and metaphors embrace both text and practice (Sharp and Richardson, 2001). Foucauldian discourse analysis highlights that discourses are entrenched in a given discipline of interest through customs and rituals as well as practices and values (Sharp and Richardson, 2001). An assortment of ideas, concepts, and categorisations of a set of practices are "produced, reproduced and transformed", giving meaning and order to individual, institutional, and other social phenomena (Sharp and Richardson, 2001).

In policymaking, for instance, an expert discourse may influence how ideas come to be recognised and prioritised on the policy agenda or in the formulation or design of policies. Technical information and knowledge have assumed a greater role in decision-making and are driven by expertise in some settings (Sabatier and Weible, 2014). Quite often, ideas are formulated by experts in policy community networks consisting of, among others, bureaucrats or academics and

researchers in think tanks who share an interest in a particular policy area (Sabatier and Weible, 2014). Policy communities are usually bound by shared professional norms and ways of thinking, meaning that it may become subsequently difficult to reframe an issue because experts within the community are likely to have a strong attachment to it (Hall, 1993; Baumgartner, 2013). These ideas are expressed in various forums and forms, such as hearings, papers, and conversations, and through this process of discussion usually change from the original proposal (Sabatier and Weible, 2014). When ideas are a commonly held viewpoint, they are known as a paradigm (Baumgartner, 2013). An illustration of this may be derived from Popkin's ideas about shifting nutrition patterns (Popkin, 1993). Popkin's analysis of data trends on population weight gain, which he attributed to higher sugar, salt, and fat consumption together with urbanisation, may be said to have helped formulate the current discourse on diet and health policy with regards to the prevention of NCDs. By a similar token, the concept of the 'nutrition transition' has become the common paradigm (Popkin, 1993).

Emergent discourses in policymaking have been described by Sharp and Richardson (2005) as both the "complex bodies of values, thoughts and practices, including communicative acts and scientific knowledge alongside unspoken actions", and also as the use of everyday, common knowledge intertwined within power relations (Sharp and Richardson, 2001). Since 2015, the discourse around sustainable development has been at the forefront of the global health agenda and, within that, NCDs have gained prominence with their inclusion in the UN's 2030 Agenda for Sustainable Development Goals (SDGs). This will be discussed in the next section along with the institutional arrangement or actors at the global- and regional-level of governance who may affect policy decisions taken at the national level of government.

At the same time, policy ideas and actions at the national level can also influence global policy directives and direction. For instance, over time global health recommendations on policy actions to

prevent NCDS such as those concerned with addressing NCD risk factors like the availability of ultra-processed foods have evolved with time from broad recommendations to a set of specific actions (Carriedo et al., 2021). The idea of leveraging fiscal policies to change health-related behaviour is not a new idea, despite this health taxes have not been extremely popular at a country-level. In addition, the recommendation to limit sugar intake for the prevention of NCDs has also been around for a while, yet it is only within the past decade that there has been an upswell in countries adopting explicit taxes on sugary drinks. As the country examples from the Pacific and Latin America show, circumstances at the national level have prompted policymakers to enact taxes specifically targeting SSBs (Carriedo et al., 2021; Thow et al., 2011). The fact that these national policies preceded more specific global recommendations and calls to reduce sugar intake focusing on SSBs suggest that policy-in-practice locally can also spur global action around policy ideas (World Health Organization, 2015d). Furthermore, as Witter (2019) highlighted policymakers in LMICs – as the potential recipients of policy ideas – have their own set of circumstances to navigate and this can involve deciding on whether they find the international policy ideas presented coherent. On the other hand, a critical point Stone makes is that in considering the conditions for policy change to take place there is a risk of the "acceptance" of an idea becoming more politically relevant than the idea itself (Stone, 2012).

Setting the agenda for NCD prevention and control at the global-, regional-, and national-level

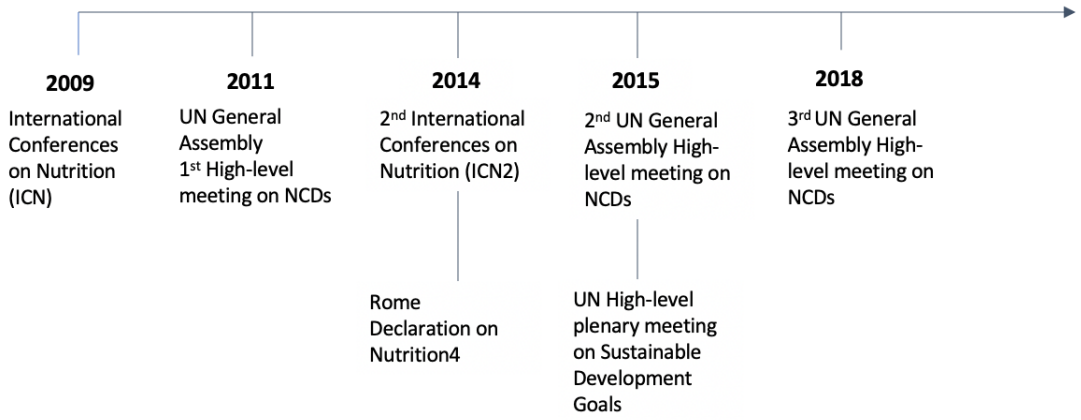
Over the past two decades, global health has gained political visibility and health-related issues have become a focus on the global agenda, unlocking significant funds in the form of development aid to tackle health problems (Kickbusch, 2011). Like most issues at this level, the global health agenda – which seeks to improve population health and healthcare through collective action by developing "better policies, better programmes and better health outcomes at the country level" – is subject to

influence from powerful forces such as globalisation and multilateralism that operate within the broader global context (Magnusson, 2010; Gilson, 2012). While both of these contextual narratives have become major factors in delivering public health, this has also been impacted upon by shifts in the role of the nation-state in policy-making (Exworthy, 2008).

NCDs were first propelled into the global health spotlight in 2010 when the UN General Assembly (UNGA) decided to convene a high-level meeting on the prevention and control of non-communicable diseases (World Health Organization). The UNGA stages high-level meetings to increase awareness and achieve common consensus among heads of state on important global issues for the good of all people of the world (World Health Organization). This decision to hold the meeting was taken after considering the global health, socio-economic, and development impacts of the four main types of NCDs: cardiovascular diseases, cancer, chronic respiratory disease, and diabetes (World Health Organization). The event, held in 2011, brought into particular focus these impacts for developing countries. In addition, there have also been global policy frameworks, such as the outcome documents from the first International Conferences on Nutrition (ICN) held in 2009 and the second (ICN2) in 2014 – organised by the FAO and WHO (Food and Agriculture Organization of the United Nations and World Health Organization, 2014; Food and Agriculture Organization of the United Nations, 2018). These outcome documents have given direction and often provided a set of policy measures that governments may incorporate as appropriate into their national policies and action plans for the prevention and control of NCDs (Food and Agriculture Organization of the United Nations and World Health Organization, 2014; Food and Agriculture Organization of the United Nations, 2018). Notably, the outcome document endorsed by participating governments at the ICN2 conference, committed world leaders to establishing national policies aimed at eradicating malnutrition with specific mention being made of addressing childhood overweight and obesity and of transforming food systems to promote healthy diets (Food and Agriculture Organization of the United Nations (FAO), 2018).

When NCDs were included in the UN's 2030 Agenda for Sustainable Development Goals, it was with a specific and timebound NCD-related SDG target calling for countries to reduce premature deaths from NCDs by one-third by 2030 (UN, 2015). The inclusion marks a critical achievement for the higher prioritisation of chronic diseases globally. The ambitious target highlights the significance of NCDs on the global development agenda, which aims to eradicate poverty, achieve sustainable development, and contribute to the well-being of all people (United Nations, 2015; Nugent et al., 2018). NCDs were not previously mentioned in the UN's Millennium Development Goals (MDGs) that were in place from 2000–2015 (Nugent et al., 2018). Resolutions such as the 2030 Agenda for Sustainable Development Goals and the Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of NCDs adopted by the UNGA are considered to be recommendations, and are not legally binding on the member states (unless adopted by the Security Council) (United Nations). Even so, the mention of NCDs in the SDGs has the potential for ensuring government commitment to policies that prevent and/or respond to NCDs, and for attracting much-needed financial resources from donors and governments (Nugent et al., 2018). Presently, NCDs receive less than 2% of global healthcare spend annually (Institute for Health Metrics and Evaluation (IHME), 2016). For resource-constrained countries hoping to meet the SDG target for reducing NCD mortality, mitigating unhealthy behaviours to ease the rise of NCDs will be vital to avoid the healthcare costs associated with providing long-term medical care for chronic diseases such as type 2 diabetes (Cao et al., 2018). An objective that presents an enormous challenge in LMICs where resources and funding for healthcare are in short supply.

Figure 3: Milestones marking prioritisation of NCDs on the global policy agenda



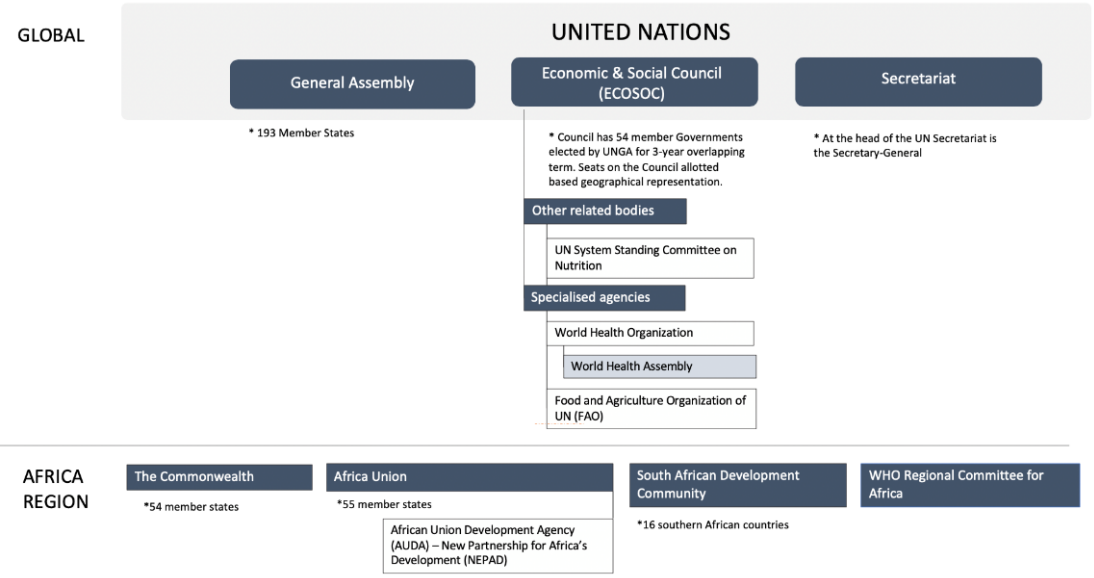
The role of the UN in setting the global agenda on health

The UN is the primary vehicle for mobilising cooperative action among nation states on a broad range of agendas including economics, social justice, and health (Buse et al., 2005b; UN, 2015; Kickbusch, 2011). Of the 195 countries in the world today, 193 are UN member states and two are non-member observer states. The right to the highest attainable standard of health, as well as the right to food are enshrined in the UN Human Rights Framework (United Nations General Assembly, 1948; United Nations System Standing Committee on Nutrition, 2018). International treaties, including the Convention on the Rights of the Child (United Nations General Assembly, 1989), and the International Covenant on Economic, Social and Cultural Rights (United Nations General Assembly, 1976), are part of this framework. Through them, states have committed to safeguard health and nutrition (United Nations System Standing Committee on Nutrition, 2018). Additional guidance on states' obligations in the context of food and health is provided by the UN bodies monitoring the implementation of these treaties (United Nations System Standing Committee on Nutrition, 2018)

UNGA is the main decision-making body of the United Nations (United Nations). The work of UNGA follows a cycle of debate, negotiation, and taking action (United Nations). Several specialised

agencies have been established under the guidance of the United Nations Economic and Social Council (ECOSOC), including the WHO and FAO. Throughout the year, formal meetings and informal panels on topics are held by the Council, and each year in July, a substantive session of the Council is convened. In 2013, the UN Inter-Agency Task Force on the Prevention and Control of NCDs was established by the UN Secretary General following the first high-level meeting on NCDs. Its purpose was to support UN agencies in scaling up action across the UN system to support governments in addressing the burden of NCDs, especially those in LMICs. The task force reports to ECOSOC through the Secretary General and, in 2018, ECOSOC adopted a resolution that recognised the work and achievements of this task force. Furthermore, within the increasingly complex architecture of the UN system, several member institutions have mandates related to health and policy platforms on health and, to varying degrees, these institutions have influence over national policy (UN, 2015; SEATINI and TARSC, 2012; Buse et al., 2005b). However, high-income countries within the UN system have been known to dominate these structures (Buse et al., 2005b).

Figure 4: Global and Africa region organisations of which South Africa is a member



The role of the World Health Organization in guiding policy action to reduce sugar intake

Many of the issues that have emerged on the global health agenda have been in response to ever-more complex global challenges and threats. Efforts to improve health have involved a series of commitments, a wide assortment of international health policy instruments and initiatives, and an expansion in the scope of health debates (Kickbusch, 2011). In this context, the WHO (as the United Nation's specialised agency for health), plays a critical role in setting norms and standards and policies in public health (SEATINI and TARSC, 2012; World Health Organization, 2019a; Buse et al., 2005b). Part of the WHO's responsibility is to establish and maintain effective collaboration with the UN, as well as various other agencies and organisations (SEATINI and TARSC, 2012)). The importance of intersectoral work for formulating and implementing comprehensive health for all-type policies has been repeatedly articulated by the WHO and intersectoral committees, but intersectoral cooperation is not without its challenges (Ritsatakis and Järvisalo, 2006). Due to the growing number and complexity of global health partnerships that include a multiplicity of organisational structures, relationships, and collaborative arrangements among participating stakeholders, there is growing concern around issues of transparency and conflicts of interest in health policy setting process. This issue has become especially pertinent since private foundations have started upping

their influence in the global health space (SEATINI and TARSC, 2012). Arguably, the influence of external forces on health policies in low income countries is experienced to a greater extent, as policy conditions may be set by foreign actors, such as donor organisations or ministries of health in return for access to loans (Buse et al., 2005a).

For most of the WHO's history, its main focus has been on combatting infectious diseases (resolution WHA66.10) (Levine, 2004). Historically, attention began to turn towards NCDs in the late 1990s in recognition of the public health impact of tobacco-related lung cancer and chronic respiratory disease (Yach, 2014). Despite strong opposition from the tobacco industry, the ground-breaking WHO Framework Convention on Tobacco Control (FCTC) eventually came to be established in 2003 (Buse et al., 2005b; Yach, 2014).

Aside from advancing agreements and regulations and making recommendations with respect to international health matters WHO also has at its disposal a variety of organisational mechanisms. One such mechanism promoting intersectoral cooperation is the Hoc Inter–Agency Task Force on Tobacco Control, established for the prevention of NCDs; another is the mechanism to propose conventions (Ritsatakis and Järvisalo, 2006; World Health Organization, 2014). As with any other treaty, the WHO FCTC confers legal obligations on the parties that have formally signed up to it (World Health Organization). Signatories of the framework are obligated under international law to implement policies aimed at reducing the demand and supply of tobacco products and to submit periodic reports back to the conference of the parties detailing progress (Magnusson et al., 2019; 2003). Poland's success in curbing tobacco use stands out as a public health achievement and South Africa has also successfully introduced a policy that levies tax on cigarettes (Levine, 2004; Blecher, 2015). Referring to the WHO and the formation of the WHO FCTC, Ilona Kickbusch, who was appointed to the new WHO Independent Global High-Level Commission on Non-Communicable Diseases in 2018, observes that "some of the most critical breakthroughs for global health have

occurred as a result of the treaty-making power of the organization, and through the strengthening of its normative role" (Kickbusch, 2011).

Another way that the WHO guides policy decision-making related to health is by publishing global guidelines and recommendations on a particular issue such as diet and nutrition. For example, the WHO strongly recommends that, in both adults and children, the intake of free sugars is reduced to less than 10% of total energy intake (World Health Organization, 2015c). The recommendations are based on scientific evidence linking increases in sugar intake to weight gain and dental caries (World Health Organization, 2015c). In 2015, the WHO published the sugar guideline, this followed the draft guideline which had been open to public commentary the previous year (World Health Organization, 2015d). Representatives of government agencies, UN agencies, non-governmental organisations, industries, and academic institutions, as well as other interested individuals submitted their comments, which were taken into account for the final guideline (World Health Organization, 2015d).

According to the WHO, countries can translate the recommendations into food-based dietary guidelines or, as some countries have done, may implement public health interventions to reduce the intake of free sugars (World Health Organization, 2015d). Examples of these measures include adding nutrition labelling to food products; restricting child-level marketing of food and non-alcoholic drinks that are high in free sugars; creating fiscal policies that target foods and beverages high in free sugars; and opening dialogues with food manufacturers to reduce free sugars in processed foods (World Health Organization, 2015d). In addition, reducing sugar consumption through effective taxation on sugar-sweetened beverages is one of the 'best-buy' or cost-effective interventions recommended by the WHO to support LMICs (World Health Organization, 2017a; World Health Organization, 2013a). Taxes can be levied in the forms of excise, sales, or value-added taxes (VAT). Excise taxes tend to be favoured, however, as they increase shelf price and are easier to

collect (Bergallo et al., 2018). Another recommended intervention from the WHO includes nutrition labelling to guide consumers in choosing products with lower formulation of sugars, sodium, and fats with the goal of reducing the total energy intake (kcal) (World Health Organization, 2017a). However, it is up to individual states whether they choose to adopt these recommendations, and how they apply them.

Regional cooperation on the prevention and control of NCDs

Due to globalisation, few countries or health policies can truly escape global influences, and as a result the need for states and other national-level policy actors to cooperate internationally has intensified (Loewenson et al., 2014; Buse et al., 2005a). Similar health problems and concerns are frequently shared between countries (World Health Organization). Cooperation among countries can help solve common problems and, as part of this collective process, leading up to the 2011 high-level meeting on NCDs, several regional initiatives were undertaken that focused on the prevention and control of NCDs (World Health Organization). In August 2008, the Libreville Declaration on Health and Environment in Africa was adopted and signatories, including South Africa, called upon the UN and WHO to support the implementation of health and environment conventions and agreements and the establishment of an African network for surveillance of communicable and non-communicable disease (Organization, 2009). Furthermore, South Africa is one of the 53 members states of the Commonwealth, a diverse collection of countries that meet every two years to discuss issues that affect the Commonwealth and the wider world (The Commonwealth). At the 2009 Commonwealth Heads of Government (CHOG) meeting in Port of Spain, Trinidad and Tobago, members called for the UN NCDs summit that took place in 2011 (United Nations General Assembly, 2014). Following the meeting, the CHOG statement of action to combat NCDs was adopted in November 2009 (United Nations General Assembly, 2014).

At the UN high-level meeting on NCDs in 2011 itself, the importance of North-South, South-South and triangular cooperation on the prevention and control of NCDs was, moreover, emphasised in the political declaration that followed (UN, 2011). This commitment was re-affirmed in 2014 for the second UN high-level meeting on NCDs (United Nations General Assembly, 2014). Ministers further agreed to align international cooperation on NCDs with national plans concerning NCDs to "strengthen aid effectiveness and the development impact of external resources in support of NCDs" (United Nations General Assembly, 2014). They also committed to "strengthening international cooperation in support of national plans for the prevention and control of NCDs, inter alia, through the exchange of best practices in the areas of health promotion, legislation, regulation, strengthening of health systems, training of health-care personnel and the development of appropriate health-care infrastructure and diagnostics" (United Nations General Assembly, 2014). According to Mendis, national NCD policies help to "catalyse, and coherently integrate regulatory, legislative and multisectoral actions across health and other health relevant sectors" (Mendis, 2010).

The WHO regional office for Africa is one of six regional offices in the world. As part of its mandate, the WHO facilitates cooperation among countries and encourages partnerships around shared challenges and concerns to achieve public health solutions (World Health Organization). It also supports member states to develop and implement comprehensive and integrated policies and strategies for the management of the main chronic NCDs (World Health Organization Regional Office for Africa). South Africa has been a member and chair of the WHO Executive Board, and has played a key role in the decisions and the health agenda of the WHO (World Health Organization, 2016). In addition, it is a very active member in the World Health Assembly (WHA) and Regional Committee for Africa and has also played a critical role in discussions of the African Group in Geneva. This group has been instrumental in presenting the African position during the World Health Assembly and complements the coordination role of the WHO Regional Office for Africa among member states (World Health Organization, 2016).

The WHO works closely with the South African government to support multi-sectoral collaboration. It has also assisted the government to make the necessary institutional arrangements so that the evidence-based policies that aim to achieve the WHO's global and regional goals can be integrated into South Africa's National NCD Strategic Plan and implemented (World Health Organization, 2016). The WHO Cooperation in South Africa (2016–2020) document outlines the priority areas for the WHO's work in the country. The third strategic priority of this document is to promote policies for healthy communities and environments, which help people to make the appropriate behavioural choices and receive quality care that promotes longer, healthier lives (World Health Organization, 2016). This will be done through activities aimed at achieving global targets and honouring national commitments on NCD prevention and control (World Health Organization, 2016).

South Africa is also a member of the Africa Union (AU), an organisation promoting cohesion and solidarity across the continent in areas such as health and nutrition, as well as trade and industrial development (Africa Union). The aims and objectives of the AU are closely aligned with South African Development Community (SADC), a regional economic community comprising of 16 states that coordinate efforts to ensure that measures geared towards preventing and controlling chronic diseases are consistent across the region (South African Development Community). The SADC Secretariat monitors member states' initiatives at controlling these diseases at the national level, sharing their successes and challenges (South African Development Community). In line with the WHA, SADC member states are encouraged to provide information and education programmes on health issues such as integrated nutrition for the prevention of malnutrition (South African Development Community).

Details of the search terms and strategy for this literature review are available in the Appendices.

Background and rationale

Motivation and purpose of the study

The consensus in the literature seems to be that there is an overall need to develop policy analysis in LMICs. This perspective is also echoed by researchers living in these settings (Gilson and Raphaely, 2008; Walt et al., 2008). In addition, it has been noted that although more knowledge on the social determinants of health and NCDs has emerged, there is still a limited grasp of the particular demands of the policy process around these risk factors and policies in certain contexts (Exworthy, 2008; Unwin et al., 2017). It is further suggested that policy models and frameworks can assist in developing the theory and practice of policy development to tackle the social determinants (Exworthy, 2008; Walt et al., 2008; Unwin et al., 2017). Lachat et al. reviewed government policies in LMICs outlining actions that address salt consumption, fat consumption, fruit and vegetable intake, and physical activity—but not sugar (Lachat et al., 2013). Otherwise, from the literature surveyed, it seems reasonable to say that the current policy environment and the potential for current diet-related policies at multiple levels of government (i.e., global-, regional-, and national-level) to address these determinants, and more specifically sugar intake, are not fully known. Furthermore, the extent to which current global and regional health promotion recommendations and policies find expression in country-level policies, such as taxation on sugar products (but by no means limited to taxes), is uncertain.

For the past decade, limiting tobacco use and harmful exposure to cigarette smoke has been at the forefront of the global health initiative to prevent and control NCDs. The global health community has successfully, during this period, reframed the issue of tobacco consumption as a public health risk, shifting public opinion and redirecting the policy agenda (Malan and Leaver, 2003). As result,

there has been a widespread commitment of countries worldwide to adopt a range of policy instruments, including the taxation of cigarettes. The collective response led by the WHO is one of the health community's notable triumphs, and South Africa is considered a leader in the area of tobacco tax policy (Blecher, 2015). This all has been achieved despite strong opposition from the tobacco industry globally, and also in South Africa. Taking into consideration the recent uptake in country-level fiscal policies to limit the consumption of SSBs, policymakers may be seeking to leverage tobacco health policy experiences and build on the knowledge gained in targeting tobacco use for diet-related social determinants of health. Policy researchers such as Blecher, who used South Africa as a case study, have already begun to examine the linkages and lessons learned from the taxation mechanisms on tobacco and alcohol for informing optimal tax structures for sugar (Blecher, 2015). Otherwise, health policy analysis on sugar taxation policies from LMICs appears limited, with the exception being a recently published study by Onagan, Ho, and Chua on the development of a sweetened beverage tax in the Philippines (Onagan et al., 2019). The literature reviewed found that studies on sugar taxation seem to focus on the technical aspects of these policies as a mechanism for policy delivery, or on the potential benefits or outcomes of reducing consumption and sales (Chaloupka et al., 2019; Brownell et al., 2009; Ng et al., 2018; Alvarado et al., 2019; Saxena et al., 2019; Wright et al., 2017).

SSBs present a clear target for health policy taxation and analysis. Despite recent global commitments that recommend reformulating products to reduce free sugars, fiscal policies and SSB taxes have been nearly absent from the international political agenda and there is limited recognition of "price and taxation as effective public health policies and more broadly of the importance of healthy environments that enable people to make healthy choices" (Backholer et al., 2018). Backholer et al., who make this observation, claim that this potentially undermines policy development and fails to protect it from industry interference at national and international levels (Backholer et al., 2018). Scope, therefore, exists for exploring the policy process to gain insight into

the barriers and levers influencing policy development in this area. That said, excise taxes are a single population-wide policy mechanism at the disposal of governments to curb sugar intake in adults and children. Other measures also exist and are deployed in different sectors. These could be policy guidelines for schools that provide explicit guidance on nutrition-limiting sugar consumption for children or adolescents, or policies geared at reducing children's exposure to junk food marketing. Certainly for South Africa, it does not appear that a broader scoping of intersectoral policy actions in this particular area are documented.

Furthermore, policy transfer is a theoretical concept in policy analysis that has been explored to a limited extent in the health sector. No studies have been located that use the conceptual framework of policy transfer in relation to policies concerned with sugar intake. However, this method has been used more broadly in a study by Tervonen-Gonçalves and Lehto, who looked at the transfer of health public policy within the context of a 'health for all' approach that promotes the inclusion of health in all policies (Tervonen-Gonçalves L and Lehto J, 2004). Even within research on tobacco control policies, 'policy transfer' has seemingly had limited use: two studies were identified that examined policy change in tobacco control policies across the EU and UK (Studlar, 2007; Cairney, 2009). Gilson and Raphael, in their review on health policy research from LMICs, mention one article on policy transfer and tobacco control policies (Gilson and Raphaely, 2008). They further note that the policy transfer articles they assessed all considered "the ways which policies are transferred between international and national arenas, often explicitly using policy transfer theory or concepts" (Gilson and Raphaely, 2008). This indicates an opportunity to extend this area of research by also taking into account policies at the subnational level of government—the Western Cape government in this instance.

In addition, discourse analysis is an increasingly common approach that has been used in other disciplines, such as planning and environmental policy research, but is still relatively seldom applied

in health policy analysis (Sharp and Richardson, 2001; Yazdannik et al., 2017). Using a discourse analysis approach potentially offers a means to consider how to assess the subtle working of power in complex policy processes.

Rationale and significance

South Africa has, in the past, led a very successful campaign to curb tobacco use – especially among younger smokers – by taxing cigarettes. Seemingly building on this experience, South Africa has now introduced similar legislation for SSBs with the aim of addressing high-levels of overweight and obesity, as well as NCDs (Malan and Leaver, 2003). In fact, South Africa is the first country in Africa to impose an excise levy on SSBs. This example – also taking into account other intersectoral policies – offers a lesson that South Africa's neighbours, as well as other LMICs may look to draw from when seeking to influence the policy environment. By reviewing the policy documents issued at the various hierarchical levels of decision-making, this study aims to provide a detailed analysis of the extent to which policies at multiple levels address these aspects and how this has led to and informed South Africa's fiscal policy of taxation on sugary drinks in association with other intersectoral policies limiting sugar intake.

It is believed that a case study of this nature can provide some insight into how global recommendations on diet are expressed in policy directives at various levels of government and what lessons may be drawn from the experience. This case therefore provides an important opportunity to gain a better understanding of why and how this policy decision came about within the context of the global and regional NCD agenda, and thus contributes to broader literature on policy analysis in LMICs. It is hoped that the study will provide sufficient insight into the policy change process to be of value for decision-makers across relevant sectors who operate at a subnational-level working to promote healthy diets.

It is acknowledged that the content of policies as contained in policy documents is only one aspect of a complex health policy process that is very much influenced by actors and their positions of power. While key informant interviews are important and would generate valuable insights for making sense of this complexity, a review of the policy documents offers a starting point for developing that understanding and to potentially draw from for further research.

Aims, objectives and research question

Primary research question: How have global policy directives and recommendations on sugar intake to prevent and control NCDs found expression in the South African context?

Secondary research questions:

- How have these directives and recommendations found expression in an African regional context?
- Which sectors have policies related to sugar intake?
- What are the differences and/or similarities in expression between the South African national and Western Cape Province subnational contexts?
- What policy learnings can be drawn from the South African experience?

The aim of this study is to identify which intersectoral national policies have included directives to limit sugar intake in adults and children. Further to which, the study aim is to understand how and to what extent these national policies have adopted global policy dictates on sugar intake and the degree to which these have been adapted to a local country context.

Table 1: List of the study objectives

STUDY OBJECTIVES	APPROACH TO MEET THE STUDY OBJECTIVES
1. Establish what are the global health policy guidelines and recommendations limiting sugar intake in adults and children to prevent NCDs over the past twenty-year period (2000–2020) (e.g., food labels on packaging or excise taxes on products containing sugar and/or sweeteners); and identify in which policy documents from the Africa region and South African national intersectoral and local Western Cape Province context the global policy directives may have found expression.	• Develop a search strategy to identify relevant multilevel and intersectoral policy resolutions, declarations, and directives limiting sugar intake in adults and children to prevent NCDs (e.g., by searching international organisation websites such as the UN, WHO, UNSCN, and FAO; regional websites such as the WHO region Africa, AU, SADC, Commonwealth or South African governments, and Western Cape Provincial websites).
2. Establish how global health policy dictates on diet in relation to limiting sugar intake have evolved over time.	• Formulate a list of a priori themes that may be used to systematically analyse all the policies (deductive approach) and draw out themes from the policy document review (inductive approach) (e.g., the prioritisation and recommendations on marketing of unhealthy food products to children).

3. Determine how and to what extent have these global policy directives found expression at various levels of government (Africa Region, South African national-level, and Western Cape Province).	• Use the list of a priori themes to examine current diet related NCD prevention policies (laws, reports, strategies, and government programmes) in various sectors (health, education, and tax and finance) in South Africa and the Western Cape Province to identify statements and directives promoting sugar reduction in adults and children. • Use a conceptual framework approach to interrogate what aspects of policy were transferred; how this occurred (where policy transfer originated and where it was adopted; whether it was voluntarily adopted or adopted due to coercive pressure; and, who were the actors that facilitated this process (e.g., who facilitated the transfer of technical knowledge from international organisations regarding how to implement excise taxes in different settings).

Methodology

A retrospective policy document analysis will be employed, involving a structured document review of relevant policy documents. The setting chosen for this study is South Africa, where policy documents issued at the national-level of government relating to diet (specifically sugar intake) and the prevention and control of NCDs will be identified and included within the analysis. The same will be done at the subnational-level with specific focus on the Western Cape Province. South Africa is considered to be a low- and middle-income country and, as a case example, can potentially offer insights for other countries in this income bracket on how policy recommendations/policy directives may be transferred and expressed at lower tiers of government.

Data collection

Policy documents collected for this review will be limited to the period between 2000 and 2020. In September 2000, the United Nations MDGs were agreed to by member states in a global effort to eradicate poverty (Migiro, 2007). The MDGs provided a rationale for working together, and as a broadly shared and comprehensive framework that put people and their most pressing needs at the forefront, the MDGs have reshaped decision-making in the developed and developing countries alike (Migiro, 2007; Kumar et al., 2016). Though MDG targets for 2015 focused specifically on eliminating communicable diseases, the year the MDGs were initiated provides a useful starting point for data collection and the omission of NCDs in the MDGs later became a talking point that helped focus advocacy for the inclusion of NCDs in the United Nations SDGs.

The collection of global policy documents will form part of the activities of the Global Diet and Activity Research (GDAR) project. This policy review is a single component part of a broader suite of research being done by GDAR. The GDAR project is exploring the current policy environment in

relation to the promotion of key recognised interventions aimed at reducing NCDs in Africa by encouraging healthy diets, physical activity, and placemaking to support the aforementioned. Key search word terms related to GDAR's research interests were identified and will be used to systematically and manually perform Google searches of the websites of the WHO, the WHA, the World Food Programme, the FAO, the Codex Alimentarius, the United Nations Standing Committee on Nutrition (UNSCN) and the UNGA. Policy dossiers on the World Obesity Federation website were also searched, and hand searches were conducted on selected websites to find any policies, resolutions, declarations, action plans, or global guidelines relating to diet, nutrition, and NCDs. Three researchers are involved in the data collection and review process. Only documents found from the global review that specifically relate to the prevention of NCDs and/or reduction of sugar intake for the improvement of population health are to be included in this analysis. Terms of interest include 'non-communicable diseases', 'sugar intake', 'sugar consumption', 'sugar-sweetened beverages', 'SSBs', and 'policy'—as well as 'tax', 'laws', and 'regulation/s'.

This strategy is to also be applied when searching for policy documents for regional organisations where South Africa is a member state, such as the WHO Regional Office for Africa, the AU, the Commonwealth and the SADC. Policy documents will be sourced from the health sector as well as from other sectors, such as the food and beverage industry and the trade and financing sectors, with the proviso that they seek to address the broader issue of NCDs and/or are directly concerned with limiting sugar intake at a population-level. The Western Cape Government website will also be searched for relevant bills, policy documents, regulations and guidelines. The proposed search strategy is available in PART C: Appendices

Appendix A: Systematic policy review search strategy.

Data management: Use and protection of research data

A Data Management Plan (DMP) has been set up as is advised in the Research Data Management Policy of the University of Cape Town. The DMP is a formal document outlining how data will be handled during the research project and after the project is completed. The plan outlines how each aspect of the policy documents, reports, and other related files will be appropriately labelled in order to make retrieval manageable, and describes how this data will be safely stored in a reference management system (ENDNOTE). The coded data for analysis will be stored in NVIVO and back-up copies made. The analysis will be written up in Microsoft Word format and stored on a password protected computer. The master copy along with back-up copies of all the files will be securely stored on a password protected computer (De Vos et al., 2011). On completion of the proposed research study, the data will not be destroyed. Data will be stored on a password-protected computer for five years. The data will be used for research purposes and for public dissemination at the end of the study. The DMP for this project is available in Appendix B: Data management plan.

Data analysis

Policy transfer is a theoretical viewpoint that has been used to describe the spread of policy ideas from one political context to another. The policy transfer approach will be used as a conceptual tool to analyse the possible changes in how ideas on nutrition and diet are framed in relation to the prevention and control of NCDs at the global and regional levels of governance. The analysis will specifically seek to identify the mediation of these concepts for South Africa's taxation policy of SSBs and how they find expression in subnational government documents.

Policy transfer may occur at different stages of the policymaking process. This study will focus mainly on the policy formulation phases. For this purpose, a policy document review will be conducted. As a research method, document analysis provides a means of tracking change and development and

offers a potential source of empirical data for case studies (Yin, 1981). It is particularly applicable for qualitative case studies, as this approach enables the production of rich descriptions of a single phenomenon (Yin, 1981).

In order to do this, the analytical steps described below will be taken:

1. A deductive "best fit" framework of *a priori* themes will be identified, as informed by literature reviewed and the policy transfer conceptual framework (Carroll et al., 2013). An overview of the themes is available in the appendices (see Appendix C: Codebook themes). The codebook was developed as part of the GDAR global-level policy work and has been adapted for this study's purpose.
2. An inductive approach will also be used. As themes not included in the deductive framework emerge, they will be added during coding and the statements extracted. All the statements will be analysed for any evidence of policy transfer.
3. NVivo software will be used to code the policy documents. A data extraction template with the themes will set up and the coding will be shared among three researchers who will compare and discuss any discrepancies in how documents are coded and analysed. Each document is to be examined for deductive themes or 'policy statements' (stated purpose, objectives, or means). The policy statements will be allocated to categories including, but not limited to: policy document purpose and objectives; who is required to take action; type of policy action related to diets and NCDs (i.e., marketing of food products, fiscal and trade, data collection, and monitoring etc.); governance (level of commitments, responsibility, accountability and sectors involved); and calls for intersectoral approaches to be adopted.

4. In relation to policy transfer, the analysis will take into consideration the elements of Dolowitz and Marsh's policy transfer framework (Dolowitz and Marsh, 2000). The framework components are designed to help differentiate between the various aspects of policy transfer. These include: why transfer, who is involved, what is transferred, from where is policy transferred, to what degree has transfer taken place, how may it be demonstrated, and is there evidence of how transfer leads to policy failure (Dolowitz and Marsh, 2000). These questions may be applied within the limitations of a policy document review study (Dolowitz and Marsh, 2000). The adapted framework, which will include a category to identify multilevel policy transfer, is included in the appendices (see Appendix D: Policy transfer framework).
5. In analysing content with a discourse analysis lens, the words used, their intention or meaning, concepts and ideas will be examined. This includes asking: were they adopted as is or did they change over time? The discourse analysis approach will be used to determine whether there has been a reframing in the global policy documents of the subject of study interest at different points in time and/or at various levels of policymaking. Discourse analysis will be used to consider subtle expressions of power in policy processes. At the same time, employing a discourse analysis is an explicit bid to locate the policy process within a social constructionist epistemology. A social constructionist approach takes a critical standpoint towards knowledge that is taken for granted, has historical and cultural specificity, and acknowledges that knowledge is upheld by social processes (Sharp and Richardson, 2001).

Rigour

Data verification will be conducted with reference to the four following criteria (De Vos et al., 2011):

1. Credibility/authenticity: the identification and accurate description of the subject;
2. Transferability: transferability of the research findings to another context or case;
3. Dependability: the logical, accurate documentation and auditing of the data collected;
4. Conformability: the potential of the findings to be confirmed by future research.

In addition to myself, two other researchers will be collecting and analysing the data through a consultative process of regular meetings as a form of analyst triangulation to verify and validate the qualitative analysis by testing for consistency (Patton, 1999).

Ethics considerations

The study does not involve any human subjects. All literature sources that will be analysed during the policy document review are readily available in the public domain. For these reasons, formal ethics clearance to conduct this study is not required. All works of other researchers that will be used in the document review will be properly acknowledged, as appropriate.

Risk and benefits

As a policy document review, this is a no risk study. The data presented will be directly taken from literature sources and/or policy documents already available publicly. The risk to the health systems referred to within the context of this case is, therefore, minimal.

Rather, it is hoped that the findings from this review could add value to policy debates and guide decision-makers in ensuring optimum health system performance.

Knowledge transfer

This study is being done under the broad supervision of the GDAR project. The GDAR project is responsible for establishing a knowledge dissemination plan and workshops to communicate the outcomes of the research to various stakeholders, including local policymakers responsible for implementing interventions to improve healthy lifestyles. Ethics permission will be sought separately prior to engagement in these interactions. Any relevant findings or learnings from this study will be made available as part of the GDAR project.

The findings from the document review will be distributed in different formats. The various formats include:

- Presentations to other researchers and policymakers, especially those located in the three countries within the Africa region involved with the GDAR project (i.e., Kenya, Cameroon and South Africa). These countries will be looking to engage with the findings for the development of interventions;
- Policy briefs synthesising this research and making the information more accessible, in an easily-digestible format to researchers, policymakers and a variety of interested parties.
- Discussion points at local city-level workshops authorities from a variety of sectors facilitated by the Western Cape Health department as part of presentation on the findings within the context of the broader GDAR project research;
- As a peer-reviewed articles for the global scientific community; and
- As opinion pieces in popular media forums.

Study timeframe

The project will take place between April 2019 and February 2021. The project timeframe is outlined in the appendices (see Appendix E: Project timeline).

Budget

This study is self-funded. Aside from the incidental costs mentioned below, no additional resources will be required. The principal investigator declares no conflict of interest. The budget is outlined in the appendices (Appendix F: Budget).

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PART B: Journal manuscript[ii]

Target journal: Health Policy and Planning

Reducing sugar intake in South Africa: A multilevel policy analysis of how global and regional diet policy recommendations find expression at country level

[ii] Authors names and qualifications of each author are currently excluded for the purpose of this thesis.

ABSTRACT

High intake of sugar has been recognised as a contributing factor to diet-related overweight and obesity, and as a determinant for non-communicable disease (NCDs) emergence in LMICs. In 2015, the World Health Organization (WHO) released a guideline giving specific advice on limiting sugar intake in adults and children. Policy guidance has also been provided to promote healthy diets and/or restrict unhealthy eating habits at country-level.

The study explored the extent to which policy recommendations and directives on reducing sugar intake to prevent and control NCDs have found expression in policies issued at the Africa region, South African national or sub-national Western Cape provincial level. A systematic policy document review was conducted to identify policies between 2000 and 2020, at different levels of government using search terms related to sugar, SSBs and NCDs. NVivo 12 software was used to code and thematically analyse the data. A policy transfer conceptual framework was applied for the policy analysis to assess what ideas were transferred, including why and to what extent transfer occurred.

Forty-eight policy documents were included in this review. Most were global or national level policies. It was evident that several global policy ideas on unhealthy diets and reduction of sugar intake had found expression in South African health policies, as well as in the education and finance sectors. Global recommendations for effectively tackling unhealthy diets and NCDs are to implement a mix of cost-effective policy options employing a multisectoral approach. Local policy action has followed the explicit guidance from international agencies, and ideas on reducing sugar intake have found expression in sectors outside of health, to a limited extent. Together with the adoption of the sugar-sweetened beverages (SSBs) health tax, South Africa's experience offers learnings for other LMICs.

Introduction

Non-communicable diseases (NCDs) are the cause of 71% of deaths globally and more than three-quarters of these deaths occur in low-and middle-income countries (LMICs) such as South Africa (World Health Organization, 2021). NCDs are conditions of long duration that can be disabling and have dire socio-economic impacts for individuals, their families and healthcare systems (Niessen et al., 2018; World Health Organization, 2021). The global increase in overweight and obesity is associated with the steady rise of NCDs, such as cardiovascular disease (CVD), type 2 diabetes, and various cancers, which are common in most regions of the world today. Serious health concerns in their own right and risk factors for NCDs, overweight and obesity are currently estimated to affect 1.9 million adults and 340 million children and adolescents (Yuen M, 2016; World Health Organization, 2020a).

In South Africa, NCDs are responsible for almost 60% of deaths annually, signalling an epidemiological shift that has led to their co-existing with chronic infectious diseases such as tuberculosis (TB) and human immunodeficiency virus (HIV) as government healthcare priorities (Statistics South Africa, 2017). There is also a high prevalence of overweight and obesity in the population, affecting an estimated 68% of women compared to slightly less than one-third of men (31%) (Western Cape Government, 2020). Excess weight in women of reproductive age is linked to the development of NCDs such as cardiovascular disease (CVD) and type 2 diabetes later in life, potentially also affecting the health of their offspring (Kulie et al., 2011; Gaillard et al., 2014).

Lifestyle changes tied to macro-economic movements, such as urbanisation and globalisation, have contributed to the global pandemic of overweight and obesity that also impacts LMICs (Popkin et al., 2012). The net effect has been a nutrition transition towards diets that include more caloric-dense, ultra-processed foods high in sugar, fats, and salts that are cheaply and easily available – trends that

South Africa too experiences (Popkin et al., 2012). Determined to prevent and control NCDs, the government has employed several policy approaches, including putting various national strategies in place, to support and persuade its people to adopt healthier lifestyles, including changing their diets and limiting sugar intake. Multiple determinants influence a person's health throughout their lifetime, impacting the development of NCDs; therefore, a multiprong approach is advised by global health experts (Marmot and Bell, 2019).

Sugar consumption and South Africa's policy response

Excess sugar intake, especially the consumption of sugar sweetened beverages (SSBs), is increasingly considered a major contributor to overweight and obesity in adults and children (Malik et al., 2013b; Te Morenga et al., 2013a). Sugar is also associated with dental caries, another NCD linked to the consumption of SSBs known to harm health and overall wellbeing of children especially. (Moynihan and Kelly, 2014). A systematic review also confirms a detrimental link between the consumption of SSBs and cancer (Makarem et al., 2018). In 2015, the World Health Organization released guidelines on the recommended sugar intake for adults and children, where it expressed concern for the role of free sugars in contributing to poor quality diets, as well as the dual problem of obesity and NCDs (World Health Organization, 2015b).

Estimates on the daily sugar consumption habits of South Africans indicate a high intake well above the World Health Organization's recommendations (University of the Witwatersrand, 2016). Seeking to address the situation, the South African government introduced a tax on sugary drinks to curb consumption at the population level. The tax, named the Health Promotion Levy (HPL), came into effect in 2018 (Hattersley et al., 2020). South Africa is one of several countries in recent years to have adopted similar policy measures aimed at reducing sugar intake. The decision was taken by local policymakers, despite the importance of sugarcane as an agricultural crop for the country. The sugarcane industry provides employment for millions of South Africans and contributes to

government efforts to develop the economy and eliminate poverty {South Africa Department of Trade and Industry, 2020 #15645}. The tax was subsequently met with opposition from both the business sector as well as trade unions concerned about the consequences that changes in domestic consumption of sugar would have on job losses (Hattersley et al., 2020). Policymakers, however, proceeded with the tax and, as a result, South Africa is among the few LMICs and, after Mauritius, the only country in the Africa region to implement a tax on sugar products (Hattersley et al., 2020). The HPL is one of several measures the government has employed to address this multifaceted health-related problem. Therefore, as other countries in the region possibly seek to explore their policy options with regards to addressing unhealthy diets, it can be helpful to understand how global policy directives and recommendations on sugar intake to prevent and control NCDs have found expression in the South African context.

This study is a retrospective policy document analysis that explores whether and how policy ideas on sugar intake reduction held at the global system of governance have found expression at lower levels of policymaking, namely the African region, South African national and Western Cape province subnational levels. In addition, the study investigates to what extent these ideas have informed policies in other sectors outside of health. There is a limited amount of literature on policy transfer in the field of health; as such, this review drew on literature from different disciplines, such as political science, public administration, organisational learning and management, to outline a conceptual framework for policy transfer. This framework was then used to structure a review of policy transfer from official public policy documents in the health and other sectors, such as agriculture, education, finance and trade.

This multilevel policy document analysis was undertaken as part of global and regional research by the Global Diet and Activity Research Group and Network (GDAR). The Network comprises institutions in the UK, Africa and the Caribbean that are working together, by generating knowledge

on the various aspects of NCDS experienced in LMICS, to contribute towards the prevention of NCDs. The GDAR is funded through a UK National Institute of Health Research grant. A component of this policy analysis relates to a policy stream of the GDAR, work-package 3, that explored policies at the level of the global system on nutrition-related NCDs.

Conceptual frameworks

Health policies can be either formal or informal directives that inform the structure, governance and functioning of a healthcare system (De Savigny and Adam, 2009; Gilson, 2012). Policy directives set in motion a course of action (or inaction) that can impact any part of the healthcare system (Buse et al., 2005b; Gilson, 2012). Health policy analysis (HPA) is the method used to evaluate health policies. It has been described as a multidisciplinary research approach for explaining the interaction between three components involved in the policy process, namely "institutions, interests and ideas" (Walt et al., 2008; Gilson, 2012).

The Walt and Gilson (1994) health policy triangle

The Walt and Gilson (1994) conceptual framework, known as the health policy triangle, has been instrumental in assisting health policy analysts, especially those working in health policy and systems research (HPSR) from LMICs, better understand the interactions between these different components (Walt and Gilson, 1994; Buse et al., 2005b; Gilson and Raphaely, 2008). The health policy triangle sought to capture the complexity and contestations of power involved with the process of policymaking (Walt and Gilson, 1994). These elements, while integral to policymaking, were not captured in heuristic models depicting the stages of policy development primarily in use by policy analysts at the time (Jenkins-Smith and Sabatier, 1993). The health policy triangle aimed to remedy this by allowing for a more nuanced interpretation of health policies and their development as it occurred, embedded within the policy environment (Walt and Gilson, 1994).

The three corners of the triangle are: the context in which policies exist; the content of the policies themselves; and the process of policy development (Walt and Gilson, 1994). The fourth crucial element at the core of the triangle represents the actors and relationships of power (Walt and Gilson, 1994). The health policy triangle was used in this analysis to consider the content of policies where sugar was mentioned within the broader context of preventing and controlling NCDs, as well as to determine the parameters of the investigation.

Subsequently, Dolowitz and Marsh's (1996 and 2000) policy transfer framework was applied for analysing the content of policies in relations to policy transfer and the research question. This framework provides a conceptual lens through which to explore the different elements involved in policy transfer (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000). To our knowledge, the framework has not been applied elsewhere to examine policy transfer within LMIC health policy analysis. There is also no other evident example where policy transfer was used as a lens specifically in relation to reducing sugar for the prevention and control of diet-related NCDs. There is, therefore, an opportunity to use the framework to structure the analysis and determine which and to what extent global dictates influenced country-level policy action in the area of NCDs and overweight and obesity.

Policy transfer and lesson-drawing

Policy transfer is a theory of policy development that describes and/or prescribes a process, or set of processes, in which knowledge about institutions, policies or delivery systems at a particular sector or level of governance is used to inform policy development thereof in a sector or level of governance in a different political setting (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000; Evans, 2009; Evans, 2019). At various times. policy transfer has taken different forms including diffusion (Newmark, 2002), policy convergence (Bennett, 1991), emulation (Howlett, 2000), policy

learning (Stone, 2001) and lesson drawing (Richard, 1993). However, Roses' lesson-drawing and Dolowitz and Marsh's policy transfer framework (1996 and 2000) are the two commonest starting points for understanding the topic (Dolowitz, 1996). According to Rose, taking policy lessons from another context is an intentional, action-orientated activity enacted to achieve policy goals (Rose, 1991b; Rose, 1993). This separates it from day-to-day diffusion of knowledge or non-rational policymaking (or policymaker behaviour). Because it is an intentional activity, there is a presumption that organisational-cultural processes are engaged with learning, and that policy development is underpinned by "rituals and legitimacy" (James and Lodge, 2003). Diane Stone (2001) interprets the processes of policy learning as broader and more complex, stretching beyond bilateral relationships between states and involving an array of governmental and non-state actors including international organisations and policy intermediaries (Stone, 2001). In her work, on policy translation and policy transfer she highlights the importance of context, the influence of policy learning, the acceptance of the idea and the spaces of meaning-making and interpretation that have their own capacity of power (Stone, 2012).

In LMICs, often in connection with donor funding, international agencies tend to play an influential role in guiding policy ideas. Health policy analysis on policy transfer reflects this with the most studies focussed on international to national transfer (Gilson and Raphaely, 2008). On occasion, national policy ideas can and do influence international policy and mutual learning appears more likely in future (Gilson and Raphaely, 2008; Constantine and Shankland, 2017). However, international agencies are known to play an influential role in shaping national policy in LMICs, as such this study has largely as its focus to explore the ideas that emanated globally and how they were received at different levels of governance.

The policy transfer framework

Dolowitz and Marsh's (1996 and 2000) policy transfer framework is a well-regarded heuristic model that covers a wide range of policymaking activities in its classification of the ways transfer occurs. The various "dimensions of policy transfer" are organised into a framework structured around six empirical questions (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000), discussed below.

Why do actors engage in policy transfer?

The reasons why actors engage in policy transfer are not necessarily clear cut; often they lie somewhere between "voluntary" and "coercive". Policymakers may voluntarily seek policy "solutions" to a current problem or failed policy; alternatively, they might be coerced into adopting policy measures, due to external political pressures (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000). Global and intensified communication among present-day politicians, bureaucrats and experts means that policymakers are better informed via their networks about the types of policies or programmes being implemented and whether they work or not (James and Lodge, 2003). Newer technologies have made it both easier and faster to voluntarily borrow, adopt or spread policy within and between political systems (James and Lodge, 2003; Evans and Davies, 1999; Marsden and Stead, 2011). In addition, policy ideas from other contexts presented as best-practices may be heavily promoted by entrepreneurs, pressure groups or advocacy coalitions, international policy networks and epistemic communities, or global funders, especially in LMICs (Lee and Goodman, 2002; Kern and Bulkeley, 2009; Dunlop, 2012).

Who is involved in the policy transfer process?

Dolowitz and Marsh (2000) identified nine categories of actors: elected officials, political parties, bureaucrats/civil servants, pressure groups, policy entrepreneurs and experts, consultants, think tanks, transnational corporations, supranational governmental and non-governmental institutions

(Dolowitz and Marsh, 2000). Relatedly, MacKinnon *et al.* (2008) flag structure and agency as two critical aspects for considering the power or importance of actors in policy transfer (MacKinnon et al., 2008). Illustrating this point, some actors, such as politicians, have a legitimate role in the policymaking process (making them policy 'insiders'). They are involved in what Stone (2012) refers to as the "hard" transfer of policy practices and instruments involving "executive decisions, legislation and regulation" (Stone, 2012). By contrast, policy experts or other groups who operate "outside" of institutional structures have limited influence on policy implementation (Bulmer and Padgett, 2004). Their role is confined to legitimising the search for and consideration of new policies (Bulmer and Padgett, 2004).

What elements of policy are transferred?

The initial focus of policy transfer studies was on goals, policy ideals, institutions, administrative arrangements, structure and content (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000; Stone, 2012). However, since then, "softer" features such as policy ideas, attitudes, concepts and ideologies have also gained recognition (Stone, 2012). These elements can either be purposively or parenthetically spread through different channels by professional organisations and specialist networks. Ultimately, the policymaker chooses or picks what they borrow (Dolowitz and Marsh, 1996; Benson, 2009; Wolman, 2009). Detecting whether an aspect of structure or an idea, which are key instruments of policy development at all levels of governance, has been transferred is potentially less challenging than establishing whether an underlying belief system, set of attitudes or political culture has been transferred (Dolowitz and Marsh, 1996; Hulme, 2005).

From where are lessons drawn?

Policy lessons and/or elements of policy or programmes may be drawn from different places. A policymaker might look to his/her country's past for inspiration, copy a policy from another institutional structure within the country, or adopt from a bordering country or region exporting

policy (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000). At the national level of government, policy ideas and practices can also be transferred across sectors. According to Hulme (2005), this can be "top-down or bottom-up", and even bypass central institutions of domestic governance.

The transfer of policy from higher level to lower levels of governances (multilevel policy transfer) is of particular interest for this analysis. Evans and Davies' (1999) who alone appear to explore this topic with their multilevel policy transfer model with its structure and agency offers another perspective for understanding this aspect. Their model has three planes, namely: 1) the global, international and transnational level; 2) the macro-state level; and, 3) the interorganisational level (Evans and Davies, 1999). The first plane is made up of global structures and processes; these hold the power to mould the "behaviour of international, state and non-state actors and constrain or facilitate processes of policy transfer" (Evans and Davies, 1999). At the macro-state level, external "structural economic, technological, ideological or institutional factors" can bring about influential changes for domestic policy development (Evans and Davies, 1999). Lastly, at the interorganisational level, the authors suggest that ad hoc policy transfer networks can form with the intention to engineer policy change (Evans and Davies, 1999). They also emphasise the role of policy transfer networks as temporary transfer agents, and assert that these agents both condition, and are conditioned by, structural dynamics linked to global, transnational and international movements and institutions (Evans and Davies, 1999).

What are the different degrees of transfer?

The Dolowitz and Marsh policy transfer framework borrows and adapts the five categories of lesson-drawing for determining the degree of transfer established by Rose (1993): copying from another context, emulation, hybridisation and synthesis, which they combine as mixtures, and inspiration (Rose, 1993; Dolowitz and Marsh, 1996). Policy transfer is seldom as simple of copying a policy, institution or programme, more likely emulation will occur which is when a policy is not copied

exactly but is accepted as the high standard for domestic implementation or a "mixture" that takes various components from different policy settings to formulate a local solution (Dolowitz and Marsh, 2000; Benson, 2009). The choice of approach may depend on who is seeking to engage in policy transfer, whether they are looking for an expedient solution or not, and at which stage of the process the policy transfer is happening (Dolowitz and Marsh, 2000). The last form of policy transfer occurs when policymakers take new inspiration from studying familiar problems in a different context (Dolowitz and Marsh, 1996).

What restricts or facilitates the policy transfer process?

Policy transfer is more likely to take place in cases where the policy is simple, the problem not too complex, there is a clear "fit" between problem and solution, policymakers do not perceive too many unintended consequences, the policy transfer agents are familiar with the inner workings of the policy, or the outcomes can be easily foreseen (Dolowitz and Marsh, 1996). However, policy transfer can be restrained by the complexity of a programme, which can make it more difficult to transfer (Dolowitz, 1996). Benson and Jordan (2009) also identify factors such as a lack of demand, limitations imposed by the nature of the policy or programme, differences between political contexts or resourcing issues, or problems in adoption related to institutional adjustment (Benson, 2009). These constraints mostly, but not always, relate to "peer-to-peer transfer" between national governments (Benson, 2009). Softer norms and ideas spread by transnational or policy networks are not necessarily confronted by the constraints evident in "harder" elements of policy transfer (Benson, 2009).

How successful is the policy that was transferred?

The last aspect of the framework is "how transfer leads to policy failure", which can also be interpreted as the extent to which the authorities who engage in transfer are successful in achieving the aims set by government. This element was not explored in this study, as this research only

concerned itself with analysing policy documents and not with the actors involved in policy transfer. The study was therefore limited in being able to draw any conclusions about actors' perceptions on the success or failure of policy. However, while beyond the reach of this study, the success or failure of policy transfer is a feature that does offer opportunities for future enquiry.

For the purpose of this study, Dolowitz and Marsh's (2000) policy transfer framework provides a robust conceptual model for interrogating the policy documents (Dolowitz and Marsh, 2000). For this policy analysis, we chose to examine the content of policies and, as such, concentrated on exploring what were the policy ideals, goals, ideas, attitudes, concepts and ideologies contained in the policy proposals transferred. As a result, other elements from this framework, such as governance arrangements or policy programmes, were not expressly interrogated. The adapted version of the framework used in this policy analysis can be found in Appendix G.

Methods

Research aims and objectives

The aim of this study was to explore how global policy directives and recommendations on sugar intake to prevent and control NCDs have found expression at lower levels of governance. The objectives of the study were to:

- Establish what are the global health policy guidelines and recommendations limiting sugar intake in adults and children to prevent NCDs.
- Identify in which policy documents from the Africa region and South African national intersectoral and subnational Western Cape Province the global policy directives were found.

- Determine how and to what extent have these global policy directives found expression at the different levels of government, thus focusing on multilevel policy transfer.
- Establish how global health policy dictates on diet in relation to limiting sugar intake have evolved over time. The policy document analysis period was from 2000 to 2020.

Research design

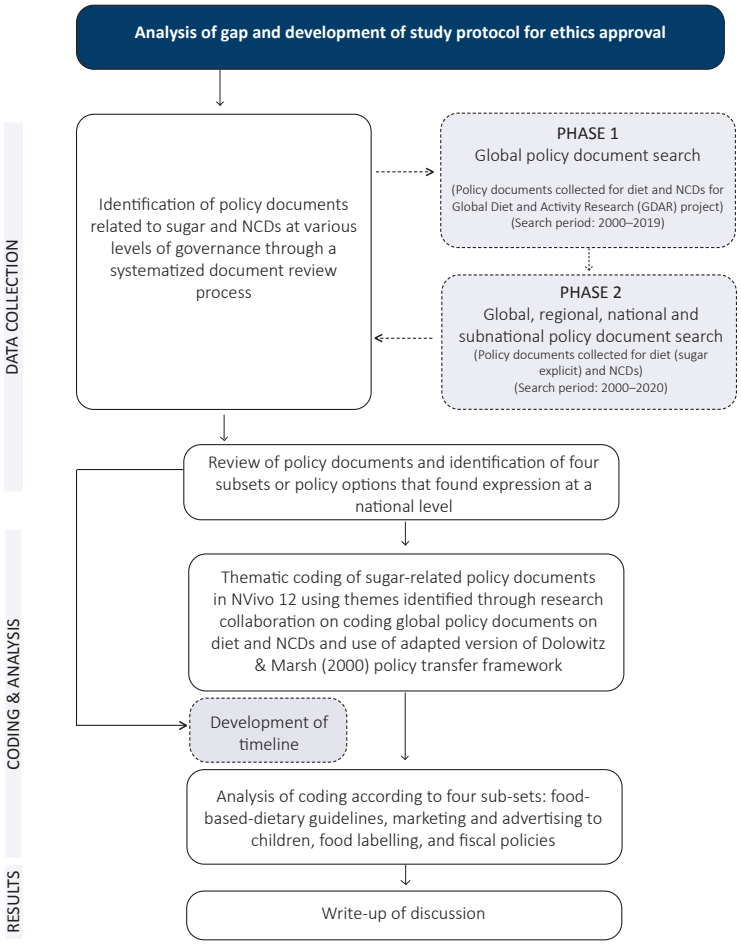
This is a retrospective policy analysis, based solely on a desktop document analysis. The step-by-step methodology is illustrated in Figure 1. The project team for the study included the primary author (NM), Amy Weimann (AW) and Maylene Shung-King (MSK). The two phases of the data collection are discussed separately below (Figure 1).

Policy document review

The method used in this study was a retrospective policy document analysis. A policy document analysis allows for the systematic collection, documentation, analysis, interpretation and organisation of research data (Kayesa and Shung-King, 2020). Data can be obtained from printed sources; however, in this study all the documents were available in digital format from well-managed online databases or organisation websites. Public policy documents can take several different forms. These vary from policy reports, national guidelines and strategies to meeting proceedings, implementation guidelines or training manuals (Kayesa and Shung-King, 2020; Dalglish et al., 2020). For this document review, public policies selected included policy declarations, decisions and resolutions, reports of international agencies on matters of interest at the highest levels of decision-making, strategies and plans, guidelines, and standards, as well national regulations.

There are several valid reasons for conducting a policy document analysis. It can either be employed to complement other research methods, since it provides a useful technique for triangulating data, alternatively it may be used as standalone method in qualitative research as was done in this study interested in interpretating the meaning and intentions within the text (Bowen, 2009). Aside from this fit, additional advantages in opting for this approach included potential time- and cost-efficiency compared to other research methods since policy documents can generally be accessed easily in the public domain. These factors were important considerations for this study. An additional benefit was being able to access and analyse policy documents for different periods beginning from when NCDs first became prominent on the global health agenda until recently. While the advantages of a policy document analysis far outweigh the drawbacks, there is a risk that relevant policy documents at the national and subnational level – especially from long ago – were no longer available from official governmental websites or were not made digital. This risk was, to the best of our ability and knowledge, managed through a rigorous and systematic document search process.

Figure 5: Methodological approach



Search strategy and data collection

Search terms

The search strategy for this study included the terms “non-communicable disease” or “chronic disease”; “non-infectious disease”, including non-hyphenated variations on spelling, as well as “diet”, “nutrition” and “sugar (s)”; “glucose” and “sugar-sweetened” (see Appendix H).

Global policy documents

The largest portion of the data collection for documents at the global level fell within the scope of work for the GDAR. The search period for the GDAR was from 2000–2019, which was extended to include 2020 for this study. Therefore, in the second phase of the data collection, supplementary

searches were conducted at the global level to identify sugar-specific policies. Documents collected for this review were accessed from various international organisation websites (see Table 1). In addition to the World Health Organization (WHO), which included documents related to the World Health Assembly, and Food and Agricultural Organization (FAO) of the United Nations (UN) websites, those for several other UN agencies were also searched. This included UN documents via the library portal for the General Assembly, the decision-making body for the UN and the Economic and Social Council (ECOSOC). Sites other than the UN included Codex Alimentarius (the Codex), the international organisation for food standards, and the World Bank. Related searches were also done on the Google search engine using a systematised approach as well as the World Obesity Federation website.

Regional, national and subnational documents

Data collection for the regional, national and subnational documents was conducted separately by myself. At the regional level, both WHO and Codex have Africa region subsites that were hand searched together with other African regional body websites (see Table 1). Publicly available records of government documents are made accessible on the South African government's websites for the different sectors of health, education, agriculture, trade and industry and finance. Documents were collected via these websites while South African parliamentary documents including government and provincial gazettes as well as bills were obtained via the Sabinet online database. The Western Cape government website was searched for subnational policy documents.

Table 2: Sources of policy document data collection across four levels of governance

GLOBAL	AFRICA REGION	NATIONAL	SUBNATIONAL

WHO FAO UNGA UN ECOSOC UN-Habitat UNSCN World Bank Codex Alimentarius	WHO Regional Office Africa AU Commonwealth SADC Codex Alimentarius Coordinating Committee for Africa (CCAfrica) UN Economic Commission Africa (ECA)	National Department of Health National Department of Basic Education Department of Agriculture, Forestry and Fisheries Department of Trade Industry and Competition (DTIC) National Treasury South African Revenue Services (SARS) Parliamentary Monitoring Group	Western Cape Government

Inclusion and exclusion criteria

The reasons for inclusion and exclusion are listed below.

Inclusion criteria

The following were included.

- Only official policy documents. The document type was limited to policy declarations, resolutions and decisions together with their annexures which contained the sentinel global strategies and action plans endorsed at this global level.
- High-level outcome documents because they incorporate recommendations to guide policymaking.
- Reports of the United Nations (UN) Secretary-General to the General Assembly on topics related to the agenda of key sessions and the Director-General of the WHO to the UN Economic and Social Council (ECOSOC) on the UN Interagency Task Force on NCDs as well matters arising from WHO/FAO for the CODEX contain recommendations and decisions.
- Guidelines, laws and regulations since they provide the means for policy implementation.

- Only documents where sugar was mentioned in relation to the prevention and control of NCDs.

Exclusion criteria

The following were excluded:

- Interviews with policymakers or other relevant stakeholders because the decision was made to focus on the content of policies in this analysis.
- Statement or speeches by policymakers.
- Non-relevant policies such as those not related to sugar intake and NCDs or document type identified in the inclusion criteria.

The selection criteria were considered broad enough to assess official policy directives and recommendation at the global level of health and provide the depth required for multilevel analysis whilst laws and regulations provided insight into policy transfer at the lower levels of governance.

Data cleaning

Part of the inclusion and exclusion process involved eliminating duplicates. The remaining documents were clustered into folders set up in Mendeley Reference Manager. This was done at both phases of data collection process. The global level documents collected during the first phase of data collection with the GDAR project team had to be reviewed a second time for this study to identify those documents that met the inclusion and exclusion criteria.

Ethics

The study is a policy document analysis. Due to the nature of the study, there were no ethics considerations. Ethical approval from University of Cape Town's ethics committee was received, number HREC REF 084/2021 (see Appendix I).

Coding and analysis

NVivo 12 computer assisted qualitative data analysis software (CAQDAS) package is a tool used for analysing qualitative data from sources such as policy documents. It was chosen by the GDAR work-package 3 research team as a platform to facilitate the organisation of data into predetermined themes as outlined in a codebook and to align coding practices between members. Training was given on how to use NVivo 12.

Codebook

A codebook was set up for data extraction according to pre-defined themes from the global level documents by the project team. Several codes from the global policy research were retained for coding of documents at the other levels of governance for this study.

Table 2: Themes for coding

DEDUCTIVE THEMES		INDUCTIVE THEMES
NCD diet and sugar Marketing/food labelling Reformulation Production Processing Retail Trade Fiscal Agriculture Gender Adolescents	Voluntary or coercive Actors (who is involved) Policy content transferred (what is transferred) Degree of transfer Facilitates or constraints of transfer Transferred from where to where? (multilevel) Demonstrates transfer	Food-based dietary guidelines Marketing to children Sugar tax

This approach allowed for cross-referencing of identified themes whilst coding data in relation to policy transfer. In addition, a codebook was set up of the categories outlined in the policy transfer conceptual framework by Dolowitz and Marsh (1996 and 2000) (see Appendix J). Each category was

described, as informed from the literature on policy transfer and the codebook can potentially be used as a resource by other health policy analysts in LMIC contexts to assess policy transfer in relation policies aimed at reducing sugar consumption (Dolowitz and Marsh, 1996; Dolowitz and Marsh, 2000). There are some elements of the Dolowitz and Marsh (2000) framework that were adapted or omitted for this study, these are indicated in the Adapted policy transfer framework presented in the Appendices (see Appendix G).

Analytical approach

A content analysis was the analytical approach applied. A thematic analysis of the content performed, using both deductive and inductive themes to analyse the content. The text was extracted according to the themes. The Dolowitz and Marsh (2000) policy transfer framework was used to establish the deductive themes and it guided approach when examining the content in greater detail to gain a deeper understanding of the meaning and nuances of the ideas. The policy transfer conceptual model is a useful explanatory tool that helps us to understand different variables involved in the process of policy transfer and offers one perspective on policy change (Dolowitz and Marsh, 2000).

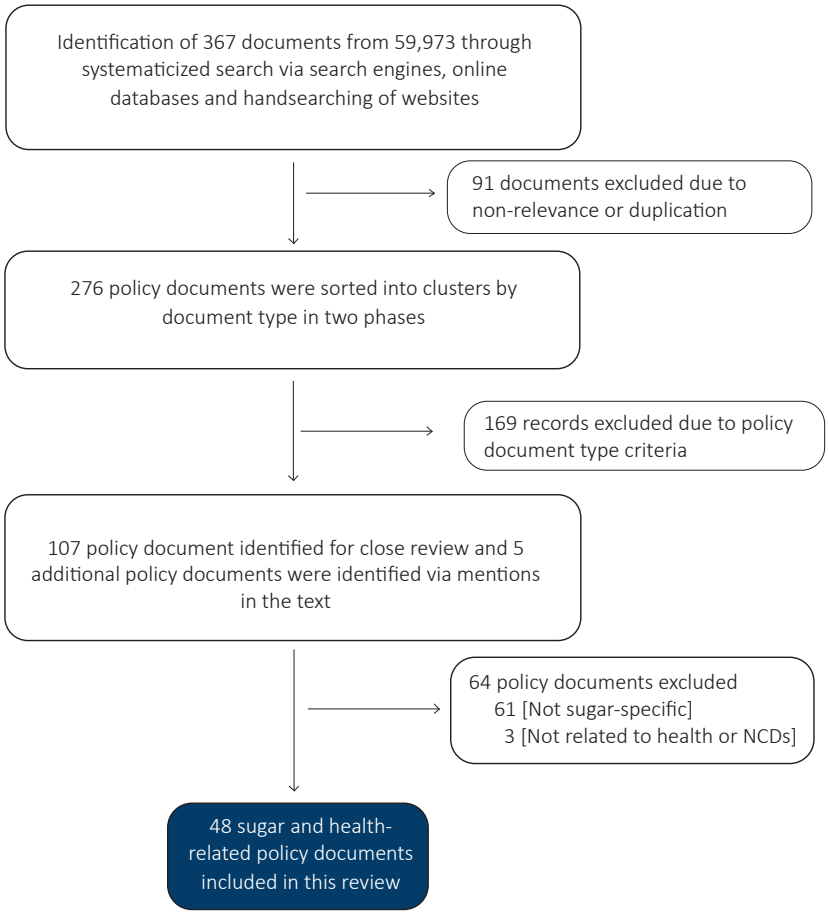
Rigour

The data collection and analysis of the global level documents for GDAR benefited the rigour of this study. During the data collection of the global policy documents, aspects of the inclusion and exclusion criteria for the type of policy documents were discussed and agreed upon as a team. The approach could then be applied for this study to policy documents concerning sugar at the global, regional, national and sub-national level. Throughout the research process, the project team met regularly to discuss the coding process and thematic analysis of the global documents. These

discussions were beneficial for sharing and testing insights from the document analysis process and provided the opportunity to refine the coding and thematic analysis process where needed.

Results

Figure 6: Systematized data collection of policy documents



Document search

A total of 48 documents met the final inclusion criteria (Figure 2). The documents represent a selection from the global, Africa Region, South African and Western Cape region. Each of the policy documents analysed is detailed in Appendix K.

Table 3: Included policy documents organized by source and document type

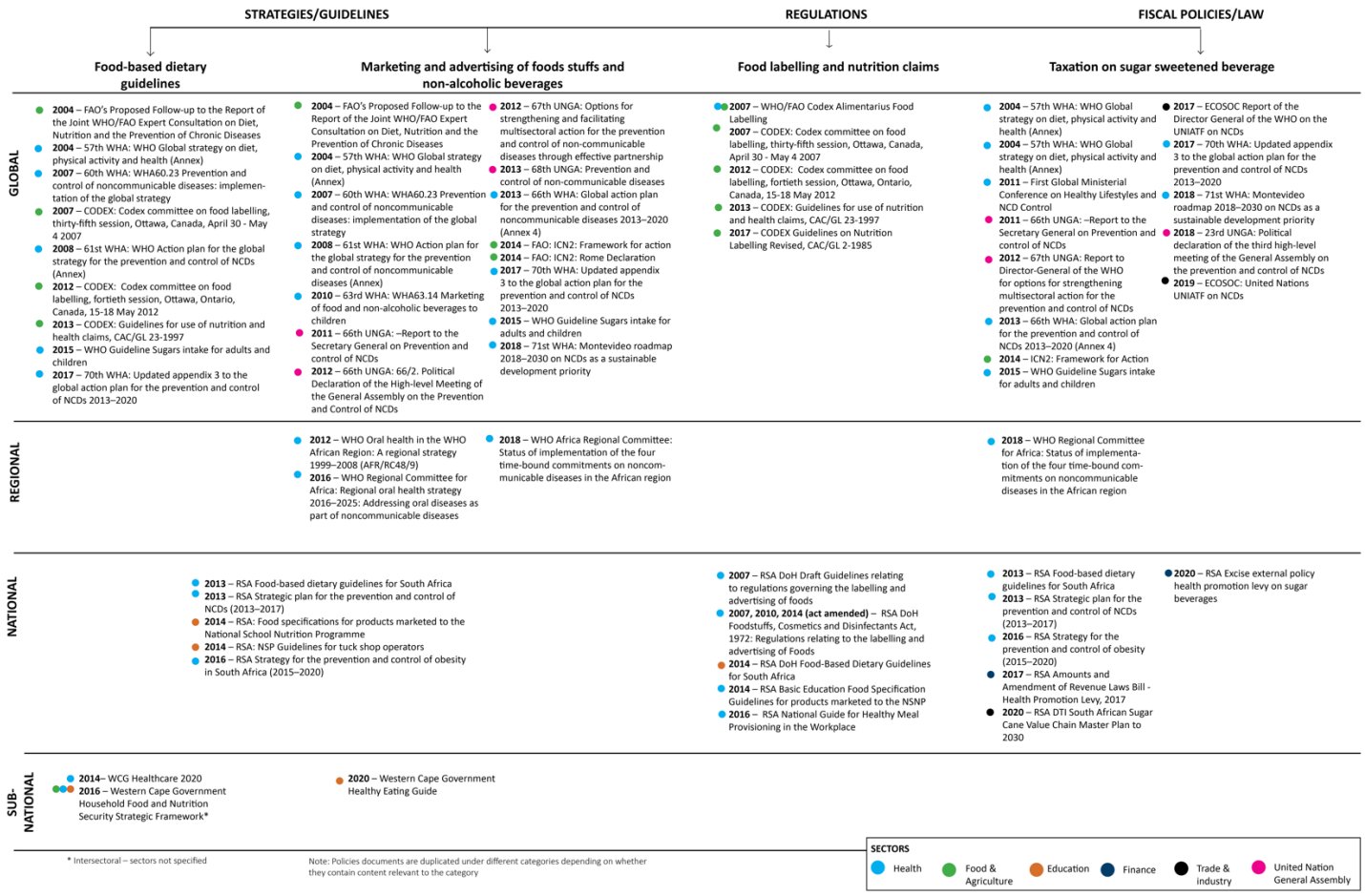
	BY SECTOR	BY DOCUMENT TYPE
GLOBAL (n=27)	WHO (n=13) FAO (n=3) UNGA (n=4) UN ECOSOC (n=2) Codex Alimentarius (n=5)	Strategy documents (n=1) Declaration and resolution (n=14) Guidelines (n=4) High-level reports (n=8)
AFRICA REGION (n=3)	WHO Regional Office (n=3)	Strategy documents (n=2) Declaration and resolution (n=1)
NATIONAL (n=15)	National Planning Commission (n=1) Department of Planning (n=1) Health (n=8) Basic Education (n=2) Trade Industry and Competition (DTIC) (=1) National Treasury (n=1) South African Revenue Services (SARS) (n=1)	Declarations (n=1) National strategies or plans (n=5) Laws or regulations (n=5) Guidelines (n=4)
SUBNATIONAL (n=3)	Western Cape Government (n=3)	Strategy documents (n=2) Healthy Eating Guide (n=1)

Categorisation of documents into four policy streams

Documents in this set were then further organised into four categories. The categories were decided based on the initial policy document review and coding of documents (see Figure 3). It was evident from the review that a suite of policy options was proposed at the global level for the promotion of healthy diets and the restriction of unhealthy ones, and that directives had found expression at a

national level. These four subsets were food-based dietary guidelines, marketing and advertising of foods and non-alcoholic beverages, especially to children, food labelling and nutrition claims, and fiscal policies specifically taxes on sugar-sweetened beverages. This approach was used to create order from the policy documents across the multiple levels to support the analysis process at the different levels.

Figure 7: Organisation of policy documents across four categories (policy options)



Observations

Type of policy documents

At the global level, health and agriculture policies are most common, whereas at the national level sectors such as Education and Finance were also present.

Actors

Like the WHO at the global level, at the national level in the South African Department of Health is the principal instigator setting the policy direction

Gaps

South Africa does not have regulations on marketing and advertising of foods and non-alcoholic beverages to children.

Only three Africa Region policies had any mention of sugar in relation NCDs, two were oral health strategies.

Few policy documents were identified at the subnational level

Policy ideas on high sugar intake expressed at various levels of governance

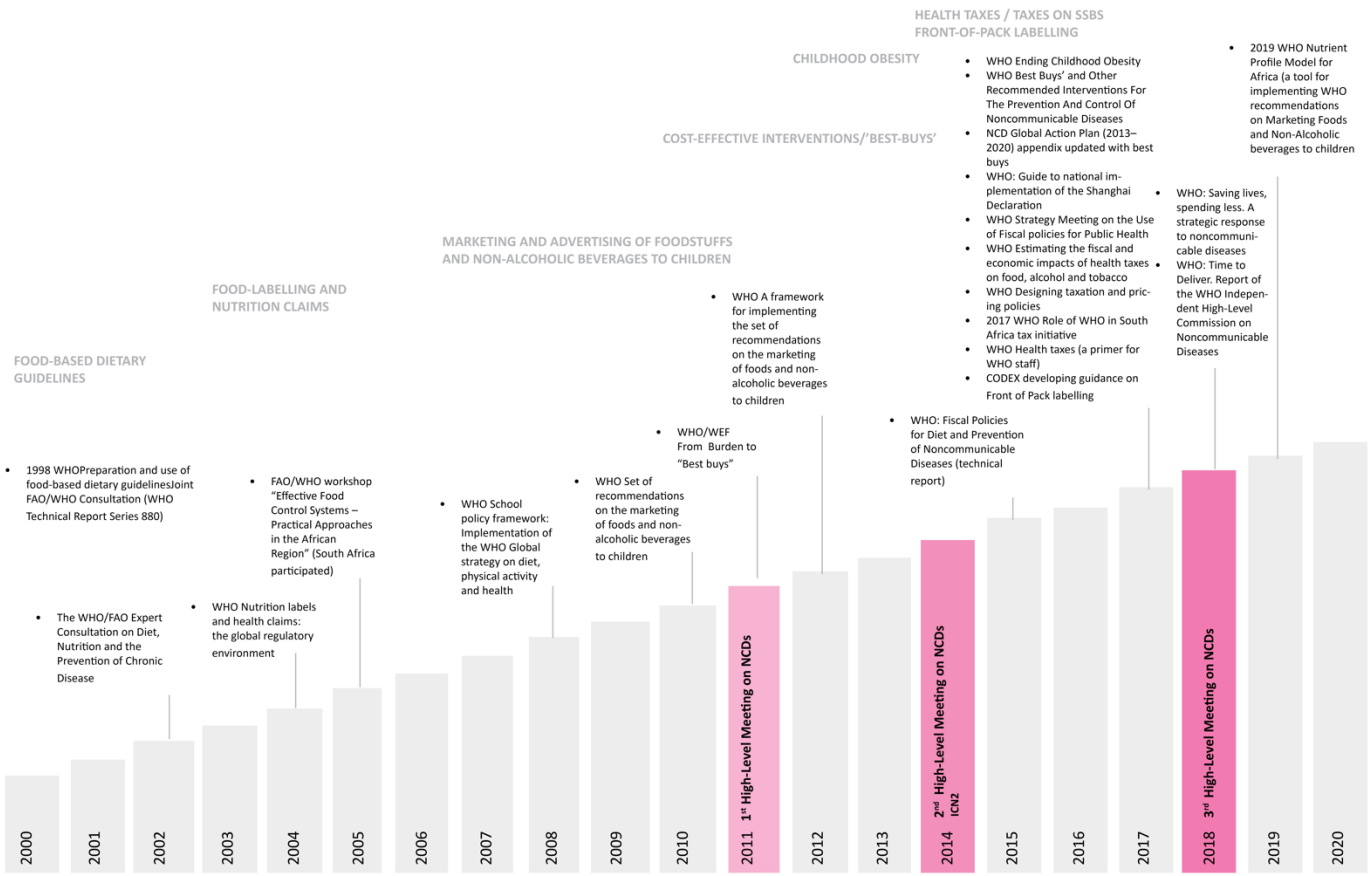
The findings are structured into several sections. The first examines the timing of policy ideas as they are seemingly prioritised at the global level and then expressed in the South African national context. The second takes a closer look at the types of policy ideas, both in terms of the problem and the solution-framing that originates within the global policies around unhealthy diets and sugar intake. Third, we consider the policy documents found at the Africa region level in relation to sugar, which have an explicit focus on oral health. Sections four and five discuss in detail the South African policy documents related to sugar. An overview of these findings is presented in the Appendices.

The timing of policy ideas on the global and national agendas

A 20-year timeline was created to map the observations generated from analysing the selected policy documents against the collection of excluded reports from the WHO (Figure 4). This was done to identify whether there were any similarities between the enforcement of global and local policies, in terms of timing. As such, the WHO reports were organised by date, to establish a pattern of when it promoted certain policy issues and flavour our understanding of the context.

From this analysis, it can be said that the timing of national policy efforts is largely aligned with policy ideas promoted at the global level. These findings indicate a transfer of policy ideas between these two levels and that South Africa has a high level of responsiveness in adhering to the global precepts.

Figure 8: Timeline of WHO reports and key events highlighting policy issues



Observations

Grey text:

Suggested timing of policy ideas in relation to WHO reports

Highlighted in grey are the policy ideas that emerged at different periods from the WHO reports

Highlighted in pink:

Sentinel events at global level

Sentinel events such as the High-level Meetings on the Prevention and Control of NCDs at the United Nation General Assembly (UNGA) (2011, 2014, 2018), as well as the Second International Conference on Nutrition (ICN2) in 2014 are highlighted in the timeline.

The timeline suggests when policy ideas emerged at the global level and the sequence in which these ideas took hold. Thus, it was possible to deduce that in general, policy interventions at the national level were similarly prioritised. The timeframes in which these occur relate to the categories of food-based dietary guidelines (2003 and 2013), regulations on labelling and advertising of foodstuffs (2007, 2010and 2014), and taxation on SSBs (2018). The analysis of the global policy documents show that the WHO's Global Strategy on Diet, Physical Activity and Health, endorsed at the 2004 World Health Assembly (resolution 57.17), articulates a framework for policy direction, outlining a comprehensive set of policy options for promoting healthy diets, and for restricting the intake of nutrients associated with an unhealthy diet (World Health Organization, 2004). The subsequent proposals took shape through action plans to prevent and control NCDs, rolled out in 2008 and 2013 (World Health Organization, 2008; World Health Organization, 2013b). In the first WHO Action Plan (2008–2013) for implementation of the 2004 WHO Global Strategy, Member States were advised to:

> *"establish and implement food-based dietary guidelines and support composition of healthier foods by limiting sugars"* (World Health Organization, 2008).

National policy action taken during this time seemingly follows this guidance. South Africa issued food-based dietary guidelines (FBDG) in 2003, following a technical report series made available from the WHO a few years prior in 1998. A decade later, in 2013, South Africa re-released (FBDG-SA 2013) with inclusion of a full chapter on sugar (Vorster HH, 2013). The 2013–FBDG update reflects the much stronger global-level focus on obesity and its growing impact on children and adolescents influenced by unhealthy diets.

Concomitant with the directive to support healthier food choices, the 2007 South African regulations relating to food labelling and advertising (No. R642) added an annexure[iii] with clarification of which types of ingredients, such as sugar or manufactured products with added sugar, constitute an unhealthy diet (South Africa Department of Health, 2007). South African regulations on food labelling and advertising of foodstuffs were amended in 2014, after updates in 2007 and 2010. These occur in parallel to sessions on food labelling by the Codex around this time with an update to the Codex Guidelines on Nutrition and health claims in 2013. The 2014 regulations relating to food labelling and advertising (No. R146) sought to make food composition more transparent by introducing mandatory food labelling on packaged foodstuffs (South Africa Department of Health, 2014).

The WHO Global Action Plan (2013–2020) that followed the WHO Action Plan (2008–2013) expands the array of policy mechanisms from FBDGs and the proposition to reformulate healthier food options. The Plan (2013–2020) encourages Member States to:

> "*Develop guidelines, recommendations or policy measures that engage different relevant sectors, such as food producers and processors, and other relevant commercial operators, as well as consumers, to*: *Reduce the content of free and added sugars in food and non-alcoholic beverages"* (World Health Organization, 2013b).

The specific mention of non-alcoholic beverages potentially leads countries with WHO's increasing encouragement to target SSBs by introducing fiscal measures in the years that follow. Evidenced from the timeline developed for this policy analysis of WHO reports, the WHO held a technical meeting to discuss fiscal policies for the prevention and control of NCDs in 2015. Thereafter, a series

[iii] See Annexure 6 (R.No.642): List of foodstuffs not considered essential for a healthy diet and for which no nutrient content, glycaemic index, health or slimming claim are permitted

of papers to support policymakers in pursuing health taxation as a policy option were made available also, including a best-practice case from South Africa on the introduction of the HPL (World Health Organization, 2015b; Roubal T., 2017; World Health Organization, 2018b; Du, 2018).

Policy ideas and directives transferred

Policy idea 1: High intake of sugar contributes to diet-related NCDs

The way in which a problem is framed is important for the types of solutions proposed to address it. This section examines the relationship between high-sugar intake, unhealthy diets and global concerns about the rising prevalence of NCDs. Concurrently, it identifies what recommendations are made to limit sugar intake and what, by global standards, a coherent response to addressing unhealthy diets from national governments should entail.

Policy idea and directives	***Text example of global policy directive***	***Expressed at lower levels of governance?***
1. High sugar intake is a component of an unhealthy diet and intake should be limited	"*Limiting high intakes of free sugars, which provide energy without specific nutrients and increase the risk of unhealthy weight gain, improves the nutritional quality of diets and decreases the risk of dental decay*" (Food and Agriculture Organization, 2004).	*Y*
	"*Limit high intake of free sugars to 10% or less of total energy per day*" (Food and Agriculture Organization, 2004).	*Y*
2. Sugar intake is linked to dental caries – the most common NCD – and should be limited	*"Recognize that renal, oral and eye diseases pose a major health burden for many countries and that these diseases share common risk factors and can benefit from common responses to non-communicable diseases;"* Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Disease (A/RES/66/2)	Y *Focus of Africa Region policies*
3. Sugar as part of an unhealthy diet contributes to overweight and obesity in adults and children	*"Recognizing that unhealthy diets are associated with overweight and obesity and that children should maintain a healthy weight and consume foods that are low in saturated fat, trans-fatty acids, free sugars, or salt in*	*Y*

	order to reduce future risk of noncommunicable diseases;" (WHA63.14 (2010) *"Reduce the content of free and added sugars in food and non-alcoholic beverages." (WHO Global Action Plan (2013–2020).*	

1. Sugar is a component of an unhealthy diet and intake should be limited

AT THE GLOBAL LEVEL

Characterisation of the problem of unhealthy diets as a contributing factor to the NCD burden strongly emerges with a Joint WHO/Food and Agricultural Organization (FAO) Expert Consultation on diet, nutrition and the prevention of chronic disease held in 2002 and report detailing their recommendations (Food and Agriculture Organization, 2004). The FAO subsequently produced a follow-up report in 2004 to the 2002 WHO/FAO Expert Consultation highlighting that overconsumption of sugar is associated with NCD development. The 2004 FAO's follow-up report puts forward to the Committee on Agriculture (COAG) for discussion the voluntary nutrient-specific goal for reducing sugar intake at a population level, proposed by the group of experts who recommend limiting high intake of free sugars to 10% or less of total energy per day (Food and Agriculture Organization, 2004).

At this early stage of problem recognition, there is no mention of evidence making the direct causal link between sugar or SSBs and NCDs. This appears to have only emerged in later years of this policy analysis (Vorster HH, 2013). Rather, the WHO/FAO recommendation on limiting sugar intake suggests that reducing excess sugar consumption can help a person to avoid dental caries and/or excess energy consumption, which can lead to overweight or obesity and thereby, in averting the risk factors, prevent NCDs from developing. As specified in the recommendation:

> *"Limiting high intakes of free sugars, which provide energy without specific nutrients and increase the risk of unhealthy weight gain, improves the nutritional quality of diets and decreases the risk of dental decay"* (Food and Agriculture Organization, 2004).

In 2004 WHO Global Strategy officially made the recommendation to "limit sugar intake". The Strategy, which aimed to strengthen international, regional and local efforts to prevent NCDs and their common risk factors thus presented the opportunity to mobilise action on this issue through the resources of WHO (World Health Organization, 2004).

SOUTH AFRICAN NATIONAL LEVEL

The South African government appears to have in good faith sought to address the issue of sugar intake in the population by introducing the WHO recommendations on policy options articulated within the WHO 2004 Global Strategy and in a subsequent mix of policy action plans (Table 4). The issue is highlighted in several high-level strategic documents including the South African Food-based Dietary guidelines.

STRATEGIES AND GUIDELINES: Expression of idea in local Food-based Dietary Guidelines (inclusion of a chapter on sugar)

FBDGs are promoted at the global level to establish a basis for policies and programmes dedicated to nutrition and health, and to foster healthy eating habits and lifestyles. The FBDG-2013 makes the recommendation to "use sugar and foods and drinks high in sugar sparingly" (Vorster HH, 2013). The wording was altered from the previous FBDG in 2003 to include "use sugar" based on evidence of South African consumption behaviour of high use of table sugar (Vorster HH, 2013). The choice not to use the term "limit sugar intake" shows local adaptation. However, it could be argued that the word "sparingly" lacks specificity, leaving the interpretation thereof to the individual; on the other hand, the wording is presumably easier for members of a diverse audience to understand compared

to the specific nutrient-intake goal, denoting a common-sense approach instead (Vorster HH, 2013). In keeping with the suggestion from the WHO/FAO Expert report, the South African FBDG-SA 2013 chapter on sugar and health advises that "an intake of added sugar of 10% of dietary energy is an acceptable upper limit" (Vorster HH, 2013). A lower limit for sugar intake is set at 6%; however, this is qualified as being applicable to at-risk groups such as people who are overweight or have prediabetes (Vorster HH, 2013).

By the time the WHO Guideline on sugar intake in adults and children (2015) was released, two years later than anticipated by the Codex in 2012 and only after guidelines on sodium had been published, the South African FBDG-SA 2013 had already pre-empted – based on available evidence – that "sugar, especially that in SSBs" was associated with a high body mass index (BMI) and consumption should be reduced (Codex Alimentarius Commission, 2012; Vorster HH, 2013). At school level, in the NSNP Guideline for Tuck Shop Operators (2014), this was translated as: "selling sugar-laden fizzy drinks" being a bad practice, and that these types of beverages should be "replaced with water, milk or juice" (South Africa Department of Basic Education, 2014b). The advice on fruit juice is likely to have been derived from the FBDG-SA 2013 recommendation that "100% pure fruit juice is acceptable as an occasional substitute" (Vorster HH, 2013).

Other than the NSNP Guideline for Tuck Shop Operators (2014), where it is advised that tuck shop operators should receive a copy of the FBDG-SA 2013, thereby further disseminating policy ideas and prescripts from the national level into local-level actions, the FBDG-SA 2013 recommendations are promoted in other nutrition-guidance documents, such as the national guide for healthy meal provisioning in the workplace issued in 2016 (South Africa Department of Basic Education, 2014b). This guide is intended to help those who are responsible for arranging meals and beverages in the workplace to choose "healthy options" (South Africa Department of Health, 2016a). The guide borrows healthy eating messages from the FBDG-SA 2013 and provides some additional information

related to the recommendation on sugar, namely that "a small amount can be added to food and drinks" (South Africa Department of Health, 2016a). Highlighted also is the fact that "sweetened soft drinks contain around 10 teaspoons sugar or more per can", cautioning consumers of the high-sugar content of carbonated drinks (South Africa Department of Health, 2016a). The onus is placed on caterers to ensure that they comply with the objectives of supporting the government and South Africans in promoting healthful diets:

> *"Caterers that provide meals to any workplace should be willing and committed to adopting healthy meal preparation methods, reduce fat, salt and sugar in the meals and beverages." (South Africa Department of Health, 2016a).*

SUBNATIONAL LEVEL

Healthcare 2030, the strategic document on health for the Western Cape, also refers to the relationship between unhealthy diets "characterised by high intake of fat, salt and sugar" as a contributing factor to NCDs, when talking about the risk of heart disease (Western Cape Government, 2014). At around the same time, the Western Cape Government Household Food and Nutrition Security (Strategic Framework) from 2016 cited national data from the health and nutrition survey, emphasising which population groups are affected by high sugar intake, namely adolescents and young adults (ages 15–24):

> *"National figures show that overweight and obesity has increased in South Africa. This is supported by local-level surveys undertaken in the Western Cape. The SANHANES reports that South Africa shows classic signs of a nutrition transition, with the highest fat and sugar scores found in the youngest age groups, in formal urban areas in those provinces that were largely urbanised"* (Western Cape Government, 2016).

Table 4: WHO policy proposals and how they found expression at the national/subnational level

WHO Global Strategy on diet, physical activity, and health (2004) policy recommendations for Member States	National strategies, policies and action plans need broad support	Governments should provide accurate and balanced information	National food and agricultural policies should be consistent with the protection and promotion of public health	School policies and programmes should support the adoption of healthy diets and physical activity
	• National strategies on diet and physical activity • National dietary guidelines	• Education, communication, and public awareness • Adult literacy programmes • Marketing, advertising, sponsorship, and promotion • Labelling • Health claims	• Promotion of food products consistent with a healthy diet • Fiscal policies • Food programmes • Agricultural policies	
South African and Western Cape policies on addressing unhealthy diets and high sugar intake	• FBDG-2013 • South African Plan for the Prevention and Control of NCDs (2013–2020) • Strategy for the Prevention and Control of Obesity in South Africa (2016)	• Guideline 14: Marketing and advertising to children Regulations relating to the labelling and advertising of foodstuffs including (R. 642, 2007); (R. 146, 2010), (R. 429, 2014)	• National Development Plan 2030 (2010) • Healthcare 2030 (2014) • National Food and Nutrition Security Plan 2018-2023 (2017) • Household Food and Nutrition Security Strategic Framework (2016) • Rates and Monetary Amounts and Amendment of Revenue Laws Bill 26 of 2017 (HPL, 2018)	• NSNP Tuck shop guidelines • Workplace Healthy Eating guidelines • Western Cape School healthy eating guide

2. Sugar intake is linked dental caries – the most common NCD – and should be limited

GLOBAL LEVEL

The WHO Guidelines on sugar intake for adults and children (2015) warns that the consumption of "free sugars" is associated with dental caries(World Health Organization, 2015b). The guideline contextualises the health issue that dental caries pose as the "most prevalent NCDs globally". Furthermore, the negative health impacts dental caries framed as being cumulative because of the "lifelong exposure to risk factors (i.e., free sugars)". The recommendation based on moderate evidence is therefore to limit sugar intake to less than 10% of total energy.

AFRICA REGIONAL LEVEL

Like overweight and obesity, oral disease is a significant health burden that share common risk factors associated with excess weight gain. Only three policy documents were identified at an African region level that mentioned sugar, two of which were oral health strategies. The findings suggest that dental caries, rather than overweight or obesity, were a higher priority for the region during this review period.

Titled "Addressing oral diseases as part of NCDs", the WHO's current African Regional Oral Health Strategy (2016–2025), focuses primarily on locating oral disease within the NCD discursive. NCDs feature strongly from the first paragraph of the Executive Summary (World Health Organization Africa, 2016). The introduction states that there is a high prevalence and severe lifetime impact of oral diseases, describing them as the "most common" NCDs for the region, which, together with increased sugar intake, is a growing problem for the continent (World Health Organization Africa, 2016). The Oral Health Strategy references recommendations from the 2015 WHO Guideline on sugar intake to consume fewer foods and drinks containing "high amounts of free sugars" (World Health Organization, 2015b).

SOUTH AFRICAN NATIONAL LEVEL

Guidance on sugar intake for South Africans was first developed by the Department of Health and adopted as part of the 2003 national Food-based Dietary Guidelines, in recognition of the relationship between sugar intake and tooth cavities (Vorster HH, 2013). These guidance included the words “use foods and drinks containing sugar sparingly, and not between meals” (Vorster HH, 2013). The wording faintly echoes that of the African Regional Oral Health Strategy (1999–2008), which had motivated for effective oral health policies or programmes addressing the influences on oral health, such as the adoption of healthy eating practices, including the “prudent use of sugar” (World Health Organization Africa, 2012). Thereafter, in the FBDG-SA 2013, very specific recommendations were made to avoid sugary drinks and foods, such as sweets, that cause tooth decay (Vorster HH, 2013). However, by the second decade of this policy analysis, the impact of unhealthy diets and specifically high sugar intake is now also prioritised as part of the growing discursive around overweight and obesity, and dental cavities is to a lesser extent mentioned suggesting a divergence from the Africa Region policy focus in this respect.

3. Sugar as part of an unhealthy diet contributes to overweight and obesity in adults and children

GLOBAL LEVEL

Overweight and obesity are recognised as a growing problem globally, and for LMICs. As evidence emerges related to the epidemiological shift of overweight and obesity in LMICs, there is increasing recognition of it as problem that affects women – especially those with lower incomes (United Nations General Assembly, 2011). During the same period, the issue of marketing and advertising foods and non-alcoholic beverages to children was formally acknowledged as a priority on the global health agenda with the WHA63.14 resolution, which provides a clear set of recommendations for Member States to follow. In addition, at the level of the UNGA, the Report of the Director-General

emphasises that “marketers can comply with recommendations against the marketing of food and non-alcoholic beverages to children” (United Nations General Assembly, 2011). By 2013, the WHO Global Action Plan for the Prevention and Control of NCDs (2013–2020) includes a clear directive to “Halt the rise of diabetes and obesity” with explicit “recommendations for policy measures that engage different relevant sectors, such as food producers and processors, and other relevant commercial operators, as well as consumers, to:

- Reduce the content of free and added sugars in food and non-alcoholic beverages.”

SOUTH AFRICAN NATIONAL LEVEL

The 2011 South African Ministerial Declaration on the Prevention and Control of NCDs proposed promising time-bound targets to reduce the percentage of people who are obese and/or overweight by 10% by 2020, as well as a percentage reduction target for salt (South Africa Department of Health, 2011). However, a specific goal for the reduction of sugar (or trans-fatty acids) is absent, albeit identified within the document as a component of an unhealthy diet (South Africa Department of Health, 2011). One could speculate that this is because reducing sugar is regarded as part of the goal on overweight or obesity. By not allocating a target for sugar, there are grounds to question whether this has caused sugar to lag salt on the South African regulation agenda. The South African Strategic Plan on NCDs (2013–2017) mentions that legislation/regulations to reduce trans-fatty acids had been introduced and that regulations to reduce salt in processed food were in the process of development (South Africa Department of Health, 2012). However, sugar is not specifically highlighted in this regard, indicating that it may not yet have been prioritised on the local policy agenda in 2013.

Our policy analysis subsequently reflects on the issues of unhealthy diets, high sugar intake and excess weight gain as evident in the South African policy documents. The findings suggest that South

African policymakers seemingly have a clear picture of an evidence-based approach to the scale of the problem and who is worst impacted. Several mentions are made in the FBDG-SA 2013 of overweight and obesity, particularly as an "acute" problem affecting women and urban residents (Vorster HH, 2013). FBDG-SA 2013 also identified children as being at risk and, worryingly, the trend of excess weight was also observed among the youngest of children (Vorster HH, 2013). As in the FBDG-SA 2013, from which it took direction for its formulation, the National School Nutrition Programme (NSNP) Guidelines for Tuck Shop Operators, produced by the Department of Basic Education, also identifies "poverty-stricken urban areas, where most ethnic communities" live as a pocket of vulnerability for driving obesity. Later, the South African Strategy on the Prevention and Control of Obesity (2015–2020) pairs "urbanization and an increase in the sales of sugar-sweetened beverages (SSBs) and high-caloric energy-dense foods" as the forces propelling the upward spiral of obesity in South Africa (South Africa Department of Health, 2016b). The strategy also confirms that unhealthy diets are common among South Africans who consume excess fats and sugar, but that their diets are also lacking in fruits and vegetables (South Africa Department of Health, 2016b).

MARKETING AND ADVERTISING OF FOODSTUFFS AND NON-ALCOHOLIC BEVERAGES: Expression of the ideas within a Guideline on marketing and advertising of foods and non-alcoholic beverages to children

The South African Department of Health regulations relating to the labelling and advertising of foodstuffs (No. R642) of 2007 prohibited marketing, advertising, and promotion to children younger than 16 of:

> *"a foodstuff not regarded essential as part of a healthy diet and healthy lifestyle, as listed in Annexure 6 – as shall not advertise in any manner, including the label of a foodstuff, to a child younger than 16 years or use a child actor younger than 16 years or use any cartoon-type character or puppet, computer animation or similar strategy or token or gift, in order to encourage the use of such foodstuff; shall not advertise or promote in any manner any*

foodstuff listed in Annexure 6 in any school tuck shop or on any school or pre-school premises" (South African Department of Health, 2007).

Yet the South African regulations relating to the labelling and advertising of foodstuffs (No. R146) issued in 2010 does not mention children, as did the earlier regulation in 2007 (No. R642). This was remedied with the amended regulation of 2014 (No. R429), with the inclusion of a section on commercial marketing and advertising of foods and non-alcoholic beverages to children: "no food or non-alcoholic beverage shall be marketed to children unless it complies with Guideline 14" (South Africa Department of Health, 2014). The inclusion of Guideline 14 in the South African regulations of 2014 certainly suggests an awareness of and willingness to comply with the resolution (South Africa Department of Health, 2014). This can also be deduced from the 2014 NSNP Guidelines for Tuck Shop Operators, where it is stated that there should be no marketing of unhealthy foods and "vending machines should be unbranded" (South Africa Department of Basic Education, 2014b).

Unfortunately, Guideline 14 was not located as a standalone policy document in this review, as it was not retrievable from the Department of Health website where it is said to have been uploaded in 2014. However, it has been discussed and presented elsewhere, which makes it possible to reference in this paper (Mills, 2016). The guideline does highlight the WHA63.14 resolution and expressly mentions that "one of the key drivers of NCDs is the promotion, advertising and marketing by food companies of products that are high in fat, sugar and salt and low in nutritional value" (Mills, 2016). It further prohibits advertisements that either undermine the promotion of healthy, balanced diets or "encourage or promote unhealthy eating or drinking habits" (Mills, 2016).

It is noteworthy that South Africa has not introduced regulations on marketing and advertising foods and non-alcoholic beverages to children after Guideline 14, despite the length of time that this issue has sat on the global policy agenda and the attention that has since been given by the WHO to both

overweight and obesity in children. The seeming ambivalence within the South African policy context of regulations on the issue of marketing and advertising to children does prompt consideration of whether the private sector and the food industry could have been involved in countering a more decisive policy approach in this area. Beyond these observations and speculations, this document review is limited in its capacity to interrogate why this might be the case.

Policy idea 2: A multisectoral approach is needed to reduce the risk factors for NCDs

Wider economic forces such as globalisation, industrialisation, urbanisation and trade impact the food chain, and were recognised in the early identification of the problem of NCDs in relation to global diets (Food and Agriculture Organization, 2004). In time, these factors – collectively referred to as structural drivers – were seen as driving the production and consumption of processed foods high in fats, salt and refined sugar, which contribute to weight gain (United Nations General Assembly, 2011).

Policy idea and directives	***Text example of global policy directive***	***Expressed at lower levels of governance?***
1. Diet-related NCDs are preventable and can be addressed by targeting the risk factors and multisectoral interventions are recommended	*"national policies and supranational practices by sectors beyond the area of health have a major bearing on NCDs and their risk factors"* (United Nations General Assembly, 2012a). *"Recognize that the incidence and impacts of non-communicable diseases can be largely prevented or reduced with an approach that incorporates evidence-based, affordable, cost-effective, population-wide and multisectoral interventions;"* (United Nations General Assembly, 2012b).	*Y*

1. Diet-related NCDs are preventable by targeting the common risk factors and multisectoral interventions are recommend

GLOBAL LEVEL

The causes of NCDs are seen to be multifactorial with several NCDs sharing preventable risk factors. Due to the complexity of factors influencing people's food choices and health, a singular approach cannot suffice and governments are recommended to employ a "mix of actions in accordance with their national capabilities and epidemiological profile" (World Health Organization, 2004). Following this proposal, global policy documents in this analysis repeatedly and explicitly direct national governments to introduce multisectoral interventions aimed at reducing these modifiable risk factors (World Health Organization, 2008; United Nations General Assembly, 2012b).

Resolution WHA60.23 on the Prevention and Control of NCDs: implementation of the global strategy adopted in 2007 urges members to implement a "multisectoral, evidence-based" national action plan and to dedicate resources towards addressing NCDs (World Health Organization, 2007). The call for a multisectoral approach to support the success of efforts to prevent and control NCDs was subsequently strengthened with the adoption of the resolution of the UNGA Political Declaration of the High-Level Meeting in 2011 (A/RES/66/2)(United Nations General Assembly, 2012b). As signatories of the UNGA's Political Declaration of the High-Level Meeting on the Prevention and Control of Non-Communicable Diseases, Member States committed and are thus obligated to:

> *"Advance the implementation of multisectoral, cost-effective, population-wide interventions in order to reduce the impact of the common non-communicable disease risk factors, namely tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol"* (United Nations General Assembly, 2012b).

The UNGA High-level document of 2012 provides a table of guidance on the multisectoral actions governments can take. Those that are directly relevant to limiting sugar intake involve reducing the amount of salt, saturated fat and sugars in processed foods; controlling advertising of unhealthy food for children; as well as economic intervention influencing food consumption, such as taxes and subsidies (United Nations General Assembly, 2012a). These sit alongside actions such as promoting fruit and vegetable intake, as well as offering healthy food in schools and other public institutions through social support programmes (United Nations General Assembly, 2012a).

These options reflect what had already largely been proposed in the WHO Global Strategy (2004). The UNGA document outlines these multisectoral actions because national government's best efforts to address NCDs are constrained, due to the scale of the epidemic, and countries themselves have highlighted the need for such an approach, acknowledging the greater structural dynamics outside of national government's control working to potentially counter local policy interventions:

> *"national policies and supranational practices by sectors beyond the area of health have a major bearing on NCDs and their risk factors"* (United Nations General Assembly, 2012a).

SOUTH AFRICAN NATIONAL LEVEL

South Africa, as one of the signatories of the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of NCDs adopted in September 2011, committed to reducing the risk factors for NCDs and creating health-promoting environments through multisectoral, cost-effective and population-wide policies (United Nations General Assembly, 2012b). Underpinning South African policy action on preventing and controlling NCDs is the commitment from ministers who signed the 2011 South African Declaration to engage in a "whole-of-government" and "whole-of-society approach" (South Africa Department of Health, 2011). In addition, they committed to working in partnership with different stakeholders to develop multisectoral public policies aimed at creating sustainable, health-promoting environments and to

develop, as well as implement, policies, strategies, plans and evidence-based guidelines at all levels, and across government departments, to prevent and control NCDs (South Africa Department of Health, 2011).

These policy dictates reflect agreements made in the UNGA Political Declaration of 2011 and later set into motion by the WHO and FAO (United Nations General Assembly, 2012b; United Nations General Assembly, 2012a; Food and Agriculture Organization and World Health Organization, 2014a). The outcome document that followed the local high-level summit on the prevention and control of NCDs held in 2011, namely the Strategic Plan for the Prevention and Control of NCDs (2013–2017), as well as the Strategy on the Prevention and Control of Obesity (2015–2020), both promote a multisectoral approach (South Africa Department of Health, 2012) (South Africa Department of Health, 2016b). Furthermore, there is evidence in a prior national document of the importance of intersectoral strategies to address the main risk factors of NCDs, which is recommended at the highest levels of strategic planning in South Africa (World Health Organization, 2008; National Planning Commission, 2010).

STRATEGIES AND GUIDELINES: Expression of idea in high-level national strategic planning documents

The global call for multisectoral action is heeded at the highest levels of South African strategic planning. A key policy proposal issued to the agriculture and agro-processing sector in South Africa's National Development Plan of 2010 highlights the need to reduce sugar intake by introducing:

> *"policy measures to increase intake of fruits and vegetables, and reduce intake of saturated fats, sugar and salt, as recommended in the South African food dietary guidelines, to accompany strategies to increase vegetable and fruit production"* (National Planning Commission, 2010).

The more recent 2017 National Food and Nutrition Security Plan (NFNS) explicitly regards the increased intake of "energy dense foods, including added sugars", as part of the country's nutrition problems. The Plan makes the critical argument that despite a mixture of interventions such as "regulations, policies and healthy lifestyle campaigns" the problem of obesity continues unhindered (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017). The reason for this failure is attributed to the fact that:

> *"Efforts were not matched with transformative actions that intend to change behaviour and the food environment in various settings such as schools, ECD centres and public spaces. This warrants a radical adoption of interventions that will influence change in these settings*" (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017).

One of the NFSN's key strategic objectives is to establish a multisectoral Food and Nutrition Security Council to oversee alignment of policies, coordination and implementation of programmes and services, to address food security and nutrition improvement at the "highest political levels" and at different levels of government (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017). The formulation of a special council suggests that government is serious about addressing malnutrition by formulating a more structured, coherent, and sweeping response to this and other nutrition-related issues identified by the NFSN.

Table 4: WHO policy proposals and how they found expression at the national/subnational level

WHO Global Strategy on diet, physical activity, and health (2004) policy recommendations for Member States	National strategies, policies and action plans need broad support	Governments should provide accurate and balanced information	National food and agricultural policies should be consistent with the protection and promotion of public health	School policies and programmes should support the adoption of healthy diets and physical activity
	• National strategies on diet and physical activity • National dietary guidelines	• Education, communication, and public awareness • Adult literacy programmes • Marketing, advertising, sponsorship, and promotion • Labelling • Health claims	• Promotion of food products consistent with a healthy diet • Fiscal policies • Food programmes • Agricultural policies	
South African and Western Cape policies on addressing unhealthy diets and high sugar intake	• FBDG-2013 • South African Plan for the Prevention and Control of NCDs (2013–2020) • Strategy for the Prevention and Control of Obesity in South Africa (2016)	• Guideline 14: Marketing and advertising to children Regulations relating to the labelling and advertising of foodstuffs including (R. 642, 2007); (R. 146, 2010), (R. 429, 2014)	• National Development Plan 2030 (2010) • Healthcare 2030 (2014) • National Food and Nutrition Security Plan 2018-2023 (2017) • Household Food and Nutrition Security Strategic Framework (2016) • Rates and Monetary Amounts and Amendment of Revenue Laws Bill 26 of 2017 (HPL, 2018)	• NSNP Tuck shop guidelines • Workplace Healthy Eating guidelines • Western Cape School healthy eating guide

Policy idea 3: Cost-effective interventions addressing unhealthy diets are available

The ideas that common behavioural risk factors for NCDs are largely avoidable and can be addressed through "simple interventions" that are cost-effective to implement came to the fore as proposed solution or approach at the First Special Session of the World Health Assembly (WHA) in 2007 (World Health Organization, 2007). The Director-General was requested "to disseminate to Member States, in a timely and consistent manner, information on cost-effective, core interventions aimed at preventing and controlling NCDs" (World Health Organization, 2008). The intention was to instigate a process for facilitating the transfer of policy ideas around what the WHO proposed as cost-effective interventions for implementation nationally, some of which would require a multisectoral approach for favourable implementation (United Nations General Assembly, 2012a).

Policy idea and directives	Text example of global policy directive	Expressed at lower levels of governance?
'Best buys' concept and the reduction of sugar intake	"Best buys to reduce major risk factors for non-communicable diseases include: Reducing salt and sugar content in packaged and prepared foods and drinks" (United Nations General Assembly, 2011).	Y
Taxation of sugar-sweetened beverages – introduced as a "best buy"	"Reduce sugar consumption through effective taxation on sugar-sweetened beverages" (WHO, Updated Global Action Plan (2013–2020) WHA 70, 2017)	Y

1. 'Best buys' concept and the reduction of sugar intake

GLOBAL LEVEL

The policy options identified in the 2004 WHO Global Strategy are subsequently organised in terms of their cost-effectiveness and the term "best buys" is used to promote the menu of policy options

and cost-effective interventions[iv]. The menu has six objectives, the implementing of which by member states is expected to promote the achievement of the nine NCD targets by 2025. Unlike "reducing salt intake", limiting sugar intake is not explicitly listed among the nine time-bound targets or in the table of cost-effective interventions identified in the WHO Global Action Plan (2013–2020), or the "road-map" Member States are suggested to follow (World Health Organization, 2013b). This explicit omission potentially hampers policy action in this area. However, governments are advised in the plan to develop guidelines, recommendations or policy measures that encourage the reduction of sugar intake in foods and non-alcoholic beverages (World Health Organization, 2013b).

AFRICA REGIONAL LEVEL

The "best-buys" are also promoted at the Africa regional level by the WHO Regional Office for Africa in its 2018 report on the implementation of the four time-bound commitments of NCDs (World Health Organization Regional Office for Africa, 2018). The report further indicates that NCDs are underfunded with little bilateral or multilateral funding, and suggests raising finances through domestic budgetary allocations,, including taxes on harmful products (World Health Organization Regional Office for Africa, 2018).

SOUTH AFRICAN LEVEL

The national application of the "best-buys" concept is also reflected within the strategy document under chapter four, entitled "cost-effective interventions for addressing NCDs", where interventions are stratified according to their cost-effectiveness (South Africa Department of Health, 2012). In the national NCD Plan, the cost in rand per head is calculated and compared across a range of

[iv] The 16 interventions considered to be the most cost-effective and feasible for implementation were those with an average cost-effectiveness ratio of ≤ I US dollar 100/DALY.

intervention measures (South Africa Department of Health, 2012). Fiscal measures were proven to be the most cost-effective of those on the list. These findings are also presented later in the Strategy for the Prevention and Control of Obesity in South Africa (2015–2020), where taxes on foods high in sugar were characterised as "potential cost-effective strategies for addressing diet and obesity" (South Africa Department of Health, 2016b). The report goes as far as to emphasise that "a multiple-intervention approach is essential to see substantially larger health gains, rather than individual interventions" and, in countries where this has been implemented to address obesity, that cost savings have been realised (South Africa Department of Health, 2016b). In this example, South African policymakers have assimilated this approach and taken initiative in assessing options through a health-economics lens.

2. Taxation of sugar-sweetened beverages – introduced as a "best buy"

GLOBAL LEVEL

Sugary drinks have come under the spotlight for their role in influencing weight gain in adults and in children. Evidence related to the biology of how SSBs contribute to weight gain has been critical in helping to establish a causal relationship, and for moving the issue of high intake of SSBs forward as a topic of interest on the policy agenda. In 2011 and 2012, the WHO Nutrition Guidance Expert Advisory Group (NUGAG) came together to review the evidence on sugar (and salt) and the strength thereof. Their work was instrumental in informing the scientific rationale between high-sugar intake and obesity, as well as dental caries (Codex Alimentarius Commission, 2012). They also helped to draft the WHO Guideline on sugars intake in adults and children (2015), based on their review. A key finding in the Guideline, based on evidence from a meta-analysis, was that "children with the highest intakes of sugar-sweetened beverages had a greater likelihood of being overweight or obese than children with the lowest intakes".

The Global Action Plan on the Prevention and Control of NCDs (2013–2020) identified fiscal measures as a mechanism for creating a supportive environment for reducing these risk factors and calls on governments to lead the development of a national policy framework to promote health and address the risk factors (World Health Organization, 2013b). However, the reduction of sugar through effective taxing of SSBs was only introduced as a best-buy in the Updated Appendix 3 to the Global Action Plan (2013–2020) endorsed in 2017 at the WHA (World Health Organization, 2017c). The step was taken amidst an increasing amount of evidence in recent years on the topic. However, LMICs have reportedly faced challenges to employing more technical policies such as health taxes, due to a lack of skills capacity and policy expertise. Raised by the UN Interagency Task Force (IATF) on the Prevention and Control of NCDs at the country-level was the challenge of:

> *(b) Insufficient analytical, legal and tax administrative capacity to increase domestic taxes on health-harming products in order to ensure self-financing of national responses to the Sustainable Development Goals and non-communicable diseases;*" (United Nations Economic and Social Council, 2017).

SOUTH AFRICAN NATIONAL LEVEL

In its Strategic Plan for the Prevention and Control of NCDs (2013–2017), South Africa actioned the global request for an increase in legislation for a better food environment, including punitive and reward taxes on undesirable processed foods to encourage healthier food choices (South Africa Department of Health, 2012). Countries have introduced taxes on SSBs for a variety of reasons – including to generate revenue. However, South African policymakers have been explicit in naming the commonly called sugar tax the Health Promotion Levy (HPL) that it is intended for purposes of promoting population health to more accurately reflect the policy intention (South African National Treasury, 2017).

FISCAL POLICIES/LAW: Expression of restriction of sugar in SSBs within local legislation

The HPL tax is leveraged on beverages where the sugar content exceeds the threshold of 4g per 100 millilitres. This applies also to cocoa powders, malt drinks, syrups and concentrates, as well as mineral waters where there is "added sugar" or sweeteners (South African Revenue Services (SARS), 2020).

Table 6: Text extract related to the South African Health Promotion Levy, 2018

Explicit proposals on sugar reduction in SSBs	
Health Promotion Levy (HPL)	***Application of HPL***
Rates and Monetary Amounts and Amendment of Revenue Laws Bill (2017)	Excise External Policy Health Promotion Levy on Sugar Beverages (2020)
The sugar content of sugary beverages liable to the levy on sugary beverages must be calculated on— *(a) the sugar content stated on the food labelling of the sugary beverages as prescribed in terms of the Foodstuffs, Cosmetics and Disinfectants Act, No. 54 of 1972;* *(b) the sugar content as certified on a test report obtained and retained from a testing laboratory recognized by the National Regulator for Compulsory Specifications of South Africa; or* *(c) the deemed sugar content of the sugary beverage that is assumed to constitute 20 grams per 100 millilitres. P. 23* *"Preparations for making beverages (excluding those of tariff subheading 1901.90.20): 2.1c/gram of the sugar content that exceeds 4g/100ml" p. 23*	*The sugar content that is used for the calculation of the SBL liability is either the actual sugar content of the SBL good, as substantiated on an acceptable laboratory test report, or the deemed sugar content of 20g/100ml. The declaration of the sugar content in respect of an SBL good with a deemed sugar content must therefore be reflected as 20g/100ml on the DA 179. In practice, the system will apply the normal SBL calculation that first subtracts the threshold of 4g/100ml exempt sugar content from the declared sugar content in the calculation of the final SBL liability; p.4*

Degree of transfer

The Dolowitz and Marsh (2000) policy transfer framework considers the question what are the different degrees of transfer? The framework identifies different gradation "or degrees of transfer"

namely copying (direct and complete transfer), emulation (involves transfer of ideas behind the policy or programme), combinations (mixture of different policies) and inspiration. In the national documents emulation appears to be most common. An example of inspiration was also noted and a singular example of how policy wording was directly transferred into the local regulations which is illustrated below.

GLOBAL LEVEL

Product food labels communicate to consumers the nutrition content and health benefits of foods. Listing the nutrient amount of a particular ingredient such as sugar, salt or trans-fats acids allows the consumer to assess whether a product has a high-sugar content and whether to avoid it. The information on food products can either appear as “nutrition labels” or as “health claims”. Food labelling is also important when a tax is applied, such as to sugar in SSBs, as a source of information on number of grams of the ingredient (South African National Treasury, 2017). The global regulatory environment on nutrition labelling and health claims on food relies on a set of voluntary guidelines drawn up by the Codex that subsequently inform national regulation (World Health Organization and Food and Agriculture Organization, 2007). Since Member States were urged through resolution WHA56.23 to make full use of the Codex, the organisation has been instrumental in mobilising the agenda on improving consumer awareness of the sugar content in foods through food labelling and nutrition claims related to sugar (World Health Organization, 2004; Codex Alimentarius Commission, 2007).

SOUTH AFRICAN NATIONAL LEVEL

The international standards and guidelines are expressed in South Africa’s national regulations relating to the labelling and advertising of foods (Codex Alimentarius Commission, 2007; Codex Alimentarius Commission, 2012; South Africa Department of Health, 2010; South Africa Department of Health, 2014). Both directives on labelling and nutrition claims are informed by Codex and are

largely aligned with the global positioning thereof (South Africa Department of Health, 2014). South Africa is a member of the Codex Alimentarius Commission (CAC), which meets annually, and there is also a Regional Coordinating Committee for the Africa region that holds regular meetings for members to contribute on key topics related to food safety and food labelling (Skikuka, 2018). In 2014, South Africa amended the previous regulations relating to the labelling and advertising of foods (No. R146) to include important proposed changes (South Africa Department of Health, 2010; South Africa Department of Health, 2014). The amendment (No. R429) included changes to, among others, introducing mandatory nutritional labelling, reducing disease-risk claims to include the mention of NCDs, and the inclusion of non-addition claims for sugar(s) (South Africa Department of Health, 2014). These regulations show the South African government's progressive commitment to making consumers aware of their sugar intake.

REGULATIONS: Copying/emulation in Regulations on food labelling and advertising of foodstuffs and non-alcoholic drinks

Processed food products and non-alcoholic drinks with a high-sugar content began facing restriction under the 2007 South African regulations relating to the labelling and advertising of foodstuffs (No. R642) with the inclusion of the aforementioned annexure (South African Department of Health, 2007). Some wording, such as the definition of "label", is copied from the international standards and guidelines, whereas other definitions, such as that of "sugar", have been adapted locally. The Codex Guidelines on Nutrition Labelling (CAC/GL- 2-1985) states that the definition of sugars in Section 2.6, namely that "sugars means all mono-saccharides and di-saccharides present in food", should be periodically reviewed "in the light of newer developments" (World Health Organization and Food and Agriculture Organization, 2007). The global guideline on food labelling stipulated that the declaration of four nutrients – energy, protein, carbohydrate, protein and fat – becomes mandatory when a nutrition claim is made (World Health Organization and Food and Agriculture Organization, 2007). For example, Section 3.2.4 of the global guidelines on nutrient declaration

furthermore makes the point that "where a claim is made regarding the amount and/or the type of carbohydrate, the amount of total sugars should be listed" (World Health Organization and Food and Agriculture Organization, 2007). After this, in the South African regulations relating to the labelling and advertising of foodstuffs of 2010 (No. R146), a definition was added for "total sugar" (the sum of intrinsic and added sugars), as well as "added sugar" and "intrinsic sugar", which are still retained with some changes in the amended 2014 regulation (No. R429) (South Africa Department of Health, 2010).

The interplay between copying and emulation between the Codex documents and national regulations are highlighted in the table below (Table 5). Compared within the table is an update made in 2013 to the Codex Guidelines for use of nutrition and health claims (CAC/GL 23-1997) and the South African regulation. A non-addition claim was introduced for sugar (and salt), which is subsequently included with variation in the South African Department of Health's regulations relating to the labelling and advertising of foodstuffs of 2014 (No. R. 429) (Codex Alimentarius Commission, 2013; South Africa Department of Health, 2014). Copied text is highlighted in bold.

Table 5: Textual comparison between the Codex and South African regulations on labelling and advertising of foodstuffs

Codex guidelines for use of nutrition and health claims, CAC/GL 23-1997	**South African regulations relating to the labelling and advertising of foods, 2014 (No. R. 429)**
"7.1 NON-ADDITION CLAIMS Non-Addition of Sugars	*"Non-addition claims for sugar(s)*
Claims regarding the non-addition of sugars to a food may be made, provided the following conditions are met:	*(iii) Claims regarding the non-addition of sugars to a food may be made, provided the following conditions are met:*

(a) No sugars of any type have been added to the food (examples: sucrose, glucose, honey, molasses, corn syrup, etc.);	***(aa) the food contains no ingredients that contain sugars as part of an ingredient, such as, but not limited to, jams, jellies, sweetened chocolate, sweetened fruit pieces; and***
(b) The food contains no ingredients that contain sugars as an ingredient (Examples: jams, jellies, sweetened chocolate, sweetened fruit pieces, etc.);	*(bb)* ***the sugar content of the food itself has not been increased above the amount contributed to by the ingredients, by some other means*** *such as the use of enzymes to hydrolyse starches to release sugars."*
(c) The food contains no ingredients containing sugars that substitute for added sugars (Examples: non-reconstituted concentrated fruit juice, dried fruit paste, etc.); and	
(d) ***The sugars content of the food itself has not been increased above the amount contributed to by the ingredients by some other means*** *(example: the use of enzymes to hydrolyse starches to release sugars)."*	

Actors involved with policy transfer and expressions of influence

The roles and responsibilities of actors working together to reduce unhealthy diets

In promoting a multisectoral approach, the 2004 WHO Global Strategy emphasised that different sectors have a role to play and need to be engaged (World Health Organization, 2004). Governments were tasked with taking ownership of national efforts to implement this strategy, while the WHO was to provide leadership, evidence-based recommendations and advocacy, and to cooperate with international partners, civil society, non-governmental organisations and the private sector (World Health Organization, 2004). Furthermore, the FAO and WHO were advised to build on their "long-standing collaboration" to implement the strategy. The WHO and the FAO were already working together to promote healthy eating in a school-based setting prior to initiating the FAO/WHO Expert Consultation in 2002 (Food and Agriculture Organization, 2004). These collaborative actions, the latter in particular, appears to have helped ignite the issue of nutrition-related NCDs, giving the impetus needed to put this issue on the global health agenda, beyond the health sector in bringer to the attention of the CAOG and helping to reorient the work of the FAO to focus on both under- and malnutrition (Food and Agriculture Organization, 2004). In 2014, following consultative dialogues which included South Africa, senior national policymakers in agriculture and health and other relevant agencies commit to Recommendation 14 contained in the ICN2 Framework for Action (2014) in promoting sustainable food systems promoting healthy diets to:

> *"Encourage gradual reduction of saturated fat, sugars and salt/sodium and trans-fat from foods and beverages to prevent excessive intake by consumers and improve nutrient content of foods, as needed"* (Food and Agriculture Organization and World Health Organization, 2014b).

Apparent is the high-level political commitment to creating sustainable health-promoting or enabling environments, working across sectors with partners, and introducing legislation and regulations aimed at reducing the modifiable risk factors (United Nations General Assembly, 2012b; Food and Agriculture Organization and World Health Organization, 2014a).

Norms, values and policy ideas

Over the course of analysis, the WHO plays a critical role in promoting the agenda of healthy diets for the prevention and control of NCDs including explicit recommendation on limiting sugar intake through its advocacy efforts. Good practice sharing and expert advice are common approaches proposed throughout the global WHO policy documents for strengthening policy transfer (World Health Organization, 2008; United Nations General Assembly, 2012a). Furthermore, in the 2004 WHO Global strategy, the directive is given to strengthen public efforts using "public standards and norm, particularly those drawn up by the Codex Alimentarius Commission", which falls under the authority of the Joint FAO/WHO Food Standards Programme. Matters referred to in the Global Strategy, such as food labelling to inform consumers about contents and benefits of foods were subsequently tabled by the Codex for discussion (Codex Alimentarius Commission, 2007; Codex Alimentarius Commission, 2012; Codex Alimentarius Commission, 2013).

Food industry and private sector influence

Unhealthy diets are defined within the 2004 WHO Global Strategy as "energy-dense" foods high in calories and low in nutritional value (World Health Organization, 2004). Processed foods are "energy dense", as they are high in calories, salt, sugar and fat. Thus, these types of foods constitute an unhealthy diet, contributing to unnecessary weight gain and putting individuals at risk for NCDs. Expectations have subsequently been placed on industry to willingly reformulate products and for governments to support them (Food and Agriculture Organization, 2004; World Health Organization,

2004). By examining the relationship between industry and the private sector from a global and historical perspective through the policy documents, it appeared that the private sector, together with a range of other stakeholders, were involved in the consultation process of the 2004 Global Strategy from the early stages (World Health Organization, 2004). The Strategy encouraged governments to engage with the food industry to develop, strengthen and implement policies and action plans on healthy diets at various levels of government (World Health Organization, 2004). In addition, the Director-General was asked to cooperate with civil society and private stakeholders committed to reducing the risk of NCDs in implementing the Strategy. The clause "while ensuring avoidance of potential conflicts of interest" was added and is reiterated again in the WHA60.23 resolution on NCDs (World Health Organization, 2004; World Health Organization, 2007). However, in the second decade of this policy analysis, caution in respect to managing the relationship with industry and the private sector appears to be superseded by reports at the global level of private sector interference and conflict, as observed at the global level of the UN Task Force from 2017:

> *"Private sector interference that blocks Governments in their efforts to implement certain very cost-effective and affordable measures to attain target 3.4 of the Sustainable Development Goals (for example, increasing excise taxes and prices on tobacco products, alcoholic beverages and sugar-sweetened beverages*)" (United Nations Economic and Social Council, 2017).

A similar remark is also made In the WHO Africa Region document:

> *"Tackling NCD risk factors in the Region is hampered by the Interference of the tobacco, alcohol and food industries"* (World Health Organization Regional Office for Africa, 2018).

Recently, there has been call for strengthened commitment from the food industry and private industry, expressed through an additional commitment in the UNGA 3rd high-level meeting in

September 2018 (World Health Organization, 2018e). Prior to the UN High-level meeting in an outcome report of the ICN2, the WHO together with an intermediary, the international affairs think tank Chatham House, had met with the private sector to discuss its expectations from industry (World Health Organization, 2019b).

Discussion

The findings of this paper demonstrates that global-level, core policy ideas on what constitutes an unhealthy diet and how it should be addressed were largely accepted and implemented by the South African government. Evident from the policy analysis is the fact that global directives have found expression in Africa Regional, South African national and Western Cape subnational policy documents. At the different lower levels of governance it appears that, depending on the context, the global policy directive most strongly assumed in relation to sugar intake and NCDs depends on the health priority. In other words, African Regional level the policy documents related to oral health and NCDs, whereas at the national level the key priority appears to be the prevention and control of overweight and obesity. Within key strategy documents related to obesity and NCDs, policy ideas such as applying multisectoral, cost-effective approaches to advance efforts nationally are strongly iterated and implemented. The WHO recommends that countries adopt a National Plan on the prevention and control of NCDs, in addition South Africa similar to Mexico which is also faced with high level of overweight/obesity in the population has developed a comprehensive five-year plan on obesity where the reduction of sugar is embedded as part of its time-bound goals. A since realised activity listed being the intention to “influence fiscal policies related to SSBs”. Specific proposals related to limiting sugar intake and consuming a healthy diet are also evident in school and workplace policy documents which follows WHO’s guidance to introduce settings-based interventions. The Western Cape Government has also issued a Healthy Eating Guide for schools

with advice consistent with the South African FBDG to use sugar sparingly and that recognises WHO policy on school-based interventions.

Our policy document analysis homed in on four policy options to reduce sugar intake identified during the initial scoping review namely: FBDG, marketing and advertising of foodstuffs and non-alcoholic beverages, regulation on labelling and advertising of foodstuffs and the taxation of sugar in SSBs. Authorities appear to have responded to policy ideas promoted by international agencies, acting in areas such as food labelling, nutrition claims and taxes on SSBs, as these issues gained attention. The marketing and advertising of foodstuffs and non-alcoholic drinks was the only area to have experienced a delay in progressing the policy issue and implementing the WHO's recommendations, even though overweight and obesity are rising rapidly in South African children (Shisana, 2013). The South African civil society advocacy group HEALA, an organisation that actively campaigns for access to nutritious and affordable foods, has made a strong call to implement the WHO recommendations on the marketing of foods and beverages to children and for the country to stand up to Big Food industry where marketing of unhealthy foods to children is concerned. Implicit in the statement is that the food industry and private sector have potentially been hampering the adoption of global dictates that have been on the table for almost a decade. The South Africa Child Gauge (2020) has also highlighted that "progressive restrictions" on the marketing of unhealthy foods to children in South Africa is justified based on research on advertising to the youth.

The WHO advises introducing settings-based interventions, and South African does have its National School Nutrition Programme (NSNP), whose feeding scheme makes provision for healthy meals at schools and reaches several million learners (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017). The Basic Education Department has also developed guidelines for tuckshop operators and a healthy-eating guide for schools was distributed in the Western Cape (South Africa Department of Basic Education, 2014b; Western Cape

Government Education, 2020). These measures, identified within the policy documents, suggest that sectors outside of health, such as education, have acted on policy directives to limit sugar intake within the scope of addressing unhealthy diets towards the prevention and control of NCDs.

Policymakers in the finance sector have also proactively implemented a tax on SSBs (South Africa National Treasury, 2016). A growing concern with the prevalence of the problem has caused them to voluntarily seek out and willingly engage with the proposed health tax. There was also high-level political recognition in national development and nutrition security plans that high-sugar intake causes weight gain (National Planning Commission, 2010; South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017; Western Cape Government, 2016). Identification of the problem is one of three streams outlined by John Kingdon (1984) that need to converge for a policy window to open (Kingdon and Thurber, 1984). The other two are the policy and political streams. In terms of the policy stream, fiscal measures specifically targeting SSBs, an evidence-based, cost-effective policy solution, was made available to policymakers, and the Tax Policy unit of the National Treasury, which has experience developing excise taxes for tobacco and alcohol (World Health Organization, 2015a; World Health Organization, 2017c; Roubal T., 2017). In terms of the political stream, the WHO actively supported the government, providing hands-on technical assistance, and there was firm political support from a majority within the ANC, the political party in power, early in the process (Cullinan, 2020; Roubal T., 2017). Together, these factors helped to bring the policy proposal to fruition.

A next step for South African policymakers would be to look at the supply chain as a whole and determine what are the incentives and disincentives for reducing sugar in manufactured foods throughout the supply chain (Hawkes C and Watson F, 2017). Hawkes and Watson (2017) who reviewed the supply chain from production to retail for sugar in the European context have set out a

framework of incentives that can be used by South African policymakers as a starting point for recognising what are effective “leverage points” for policy actions that create change.

The use of the policy transfer framework

The Dolowitz and Marsh policy transfer framework (2000) was used to determine what policy ideas were transferred, who was involved and to what extent policy transfer took place. Another study in the literature that has used the framework was by Marsden and Stead (2011). They engaged framework (2000) to understand “why and how policies and policy lessons in the transport planning arena are transferred between cities”. The aim of their study was identifying gaps in existing policy and research in the sector. Similar to this study in relation to the field of health, Marsden and Stead (2011) found few studies from the sector that examined policy transfer, and concluded that relatively little is understood about policy learning and how to influence policy reform (Evans and Davies, 1999).

As the Marsden and Stead (2011) analysis shows also, the framework’s ability to explain a single aspect or element of policy transfer makes it useful. However, the framework’s all-encompassing approach to unpacking each dimension separately is limiting, because it fails to provide precise insight into the phenomenon it aims to explain (Evans and Davies, 1999). Acknowledging this, Hulme (2005) suggests that the framework’s strength lies in the fact that it leads one to question where “new” knowledge comes from, who provides that knowledge, and how this knowledge is applied in a practical and political sense (Hulme, 2005). Consequently, it is possible to know more about policy development at any level or stage of the process. For this reason, the policy transfer framework can illuminate strategic changes and, in this regard, it allows for a deeper insight in to the process (Dolowitz and Marsh, 2000; Hulme, 2005).

The policy transfer framework can also determine whether a policy is successful or not. This study did not reveal much of this aspect since it did not interview actors to get their impressions of the policy process. Yet, there were instances in the policy documents that lent themselves to forming perceptions about the success of policies. As stated in the findings, the DPME (2017), the mix of policy option employed to-date in South Africa to reduce overweight and obesity, has not delivered on its promise (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017).

Furthermore, the use of the policy transfer framework for this analysis has enabled us to consider in further detail three aspects: the degree of policy transfer, the actors engaged with the transfer of policy, and whether policy transfer occurred voluntarily or coercively. A selection of insights for each aspect is discussed below.

Role of ideas

In this policy analysis, the three policy ideas are discussed. The first relates to the problem-frame. The findings refer to the conceptualisation of unhealthy diets as a risk factor for diet-related NCDs with some explanation of how the idea came to be manifested on the global agenda. The issue came to be highlighted as epidemiological evidence on NCDs and the nutrition transition collected at the national level drew global attention. The other two policy ideas highlighted in this analysis focus on solution-framing that was promoted at the global level to countries as feasible approaches for addressing unhealthy diets to prevent NCDs for them to follow. The first is that a multisectoral approach is required, which is also strongly promoted as part of the United Nations Sustainable Development Goals (SDGs). The significance of this proposal is that it is underpinned by the acceptance at a global level of health governance that structural drivers beyond the control of the individual's personal choices are powerful determinants of health. As such this denotes, a shift from a biomedical model that previously framed thinking around the causes of overweight and obesity

and the development of NCDs. The shift in framing means that there is an acknowledgement of NCDs and overweight/obesity as a societal problem driven by structural determinants such urbanisation and the proliferation of affordable unhealthy food options mandating governments to take a proactive approach at the population-level for the health of its citizens.

The second policy idea concerns a list of cost-effective interventions. Governments, especially those of LMICs, have competing healthcare priorities where infectious disease are still common and healthcare resources are very limited. Chronic diseases such NCDs on the other hand develop over a long period. While their impact over a lifetime can be debilitating and life-threatening and even inter-generational, prioritising these conditions within the context of LMICs can be a challenge. The policy idea of promoting a set of cost-effective interventions acknowledges these local context challenges. The "best-buys" menu of cost-effective interventions provides potentially implementable solutions that maximise returns on investment in health at the population-level in an effort to support government constraints. The South African Strategic Plan for the Prevention and Control of NCDs (2013–17) clearly states that in the area of prevention that cost-effective and evidence-based interventions are prioritised for implementation and explicitly refers to the "best buys" interventions signalling the governments support of the global precept.

Degree of policy transfer

Various degrees of transfer are evident in policy analysis, including copying and emulation, which, according to Newmark (2002) is to assume a "standard basis starting point for best policy but allows for adjustment to suit varying needs of the adopter". Emulation – arguably the most common approach seen in this analysis – is exemplified by the South African sugar tax (Newmark, 2002). The WHO recommends a percentage of 20% based on the price of the product (called an *ad valorem* tax) to discourage consumption, but according to Karim et al. (2021) it does not prescribe the structure

such a tax should take (Abdool Karim et al., 2021). As such, South Africa conducted an economic evaluation to determine which type of intervention would render the most effective health gains, as described by the WHO's "gold standard" proposals. Subsequently, a policy brief explored the rationale for different policy designs by examining other countries' interventions. Using this as inspiration, South Africa employed a tax to meet local requirements and conditions (South Africa National Treasury, 2016).

The South African regulations relating to the labelling of foodstuffs and non-alcoholic drinks provide some evidence of policy copying. The example cited in the findings relates to sugar claims introduced in the South African regulations of 2014 (No. R146) (South Africa Department of Health, 2014). Sugar claims are important to the Codex guideline to ensure that the consumer is not misled or unduly influenced in their purchasing decision (Bernstein et al., 2017). Research shows that when a claim of "no added sugar" is presented on a product, consumers assume that it is healthier (Bernstein et al., 2017).

Discussions around claims for salt/sodium, sugar and trans-fatty acids arose at the 31st session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) in 2009. Session delegates, according to a United States Department of Agriculture (USDA) report (2009), were apparently in favour of a claim on "salt" and "sodium", but no agreement was reached for claims on added sugars and trans-fatty acids. As such, clarity was requested from the Codex Committee on Food Labelling (CCFL) on the types of claims, their purpose and priority (United States Department of Agriculture, 2009). While it is uncertain from the USDA's report on the 31st session of the CCNFSDU why this is so, questions around sugar have delayed this process in comparison to salt. This points to a potential lack of consensus on the evidence of high-sugar intake in relation to NCDs, as well as the power of industry during the policy process. The Codex documents in this review offered insight into the inner workings of the policy process, particularly the contestation between actors who enact

their power during policymaking, as the process brings government and food industry representatives into a space for negotiation (Buse et al., 2005b; Codex Alimentarius Commission, 2007).

As this example shows, actors play a crucial role in facilitating or blocking policy ideas from actualising, which is examined more closely in the following section.

The actors engaged with policy transfer

Three categories of actors were important role-players in this policy-document review: international organisations, namely the WHO, the FAO, and Codex; the South African government; and the food industry and private sector.

International organisations: the WHO

The policy issue of sugar reduction reflects the two aspects of the WHO's leadership role: its normative function, involving the promotion of international public goods, research and development, norms and standards, as well as consensus-building on public health policy; and its supportive function, to provide technical cooperation (Jamison et al., 1998). The WHO has used a variety of mechanisms to promote policy approaches and interventions on unhealthy diets. These range from organising epistemic policy communities, such as NUGARG and the Expert Consultation held in 2002; high-level meetings at the UNGA, and regional meetings on topics like food composition tables; producing technical briefs; establishing the United Nations Interagency Task Force on the Prevention and Control of Non-communicable Diseases (UNIATF) to develop better practices, such as how-to tools for putting the NCD best-buys into action; and creating online data- and knowledge-sharing portals (e.g., e-Lena) (Codex Alimentarius Commission, 2012). The WHO helped to prioritise the dilemma of the high-sugar content of SSBs and the ways in which they

exacerbate these health issues. In recent years, it has vociferously educated policymakers on how to implement these types of measures (World Health Organization, 2015a; World Health Organization, 2018b).

Government stewardship and responsibility

The global policy documents clearly stipulate that national governments have "stewardship" for acting on global strategies and plans to address NCDs; this involves choosing which policy programmes to implement, depending on local context and policies, and proactively leading multisectoral arrangements (World Health Organization, 2004).

It makes sense that governments take responsibility for the health of their people; however, the responsibility of managing and solving the problem of unhealthy diets and reducing sugar consumption has effectively fallen squarely on the shoulders of countries. This, despite international-level policies' awareness of the wider influence of global forces on food and supply chains, LMIC's weak capacity to resist these trends and the relatively absent role of regional authorities on this issue. Another USDA report entitled "Inconsistent participation of Southern African Countries at Codex" (2018) found that, with the exception of South Africa, which attends at least three-quarters of the meetings held annually, attendance is otherwise poor among countries in the region, because of a "lack of financial, human and technical resources, and consequently absence of scientific data to support country positions" (Skikuka, 2018). These meetings are an important platform for countries in the region to consolidate their position on issues that will be discussed at the annual Codex meetings at the global level, and to be able to take a stand against powerful trading partners such as the European Union, whose proposals might impact the interests of Southern African countries (Skikuka, 2018).

The food industry and private sector interference

The third category of stakeholders, the food industry and private sector, plays an important role in the formulation of processed foods and the amount of sugar these types of foods contain. As such, it often opposes government authorities by effective lobbying. As this analysis highlights, the private sector has been criticised for obstructing policies to reduce sugar intake.

The process of introducing the HPL in South Africa overtly depicts what private sector resistance looks like at the country level. Cullinan et al. (2020) have compiled lessons from South Africa's campaign for a tax on SSBs, which state that "opposition to the tax was well organized" (Cullinan, 2020). In South Africa, the beverage and sugar industries play an important role in the local economy, adding to their political weight. According to Cullinan et al. (2020), these industries, which include global giant Coca-Cola Beverages South Africa, apparently exploited the country's economic vulnerability to "attack the proposed tax", arguing that it would cause "significant job losses" (Cullinan, 2020). A South African policy brief proposed instituting a tax of 20% on the price, but what transpired in practice was a substantially more conservative calculation of 2.1 cents per gram of the sugar content that exceeds 4 gram per 100ml for beverages (South Africa National Treasury, 2016). The application of 4 grams versus the 5 grams threshold originally mentioned in the position paper, and which translates to around 12%, was criticised by commentators of the draft bill (Hattersley et al., 2020). In a background paper published by the WHO, documenting its role in the South African SSB initiative, Roubal (2017) claims that industry "advocated for a 'single digit tax'" (Roubal T., 2017). South African policymakers are fortunate in that they have experience in this regard related to implementing the tobacco tax in the face of strong push-back; those working within the Revenue Services know "that any tax proposal is subject to extreme lobbying" and delays, "as affected stakeholders will benefit from any delay" (South African National Treasury and Revenue Services (SARS), 2017). Similarly, the HPL was delayed by a year in South Africa (Hattersley et al., 2020). Likewise, in Zambia, industry was apparently successful in discrediting the findings of a local study

proposing a 25% tax on sugar in SSBs to regulate consumption, and, as a result, a pitiful 3% excise tax was introduced (Ndlovu and Swinburn, 2021). This type of interference poses a serious threat to LMICs' ability to institute an effective fiscal measure.

A mixture between voluntary and coercive transfer

Dolowitz & Marsh (2000) define a spectrum from entirely voluntary lesson-drawing to outright coercion from external forces, when it comes to policy adoption (Dolowitz and Marsh, 2000). Pinpointing the line between the two was not that easy within a policy-document analysis, but the co-dependence between the WHO and local policymakers is evident. As a member of the WHO and a signatory of various high-level declarations, South Africa has made a commitment to prevent and control NCDs. These commitments are voluntarily expressed in the South African Declaration on the Prevention and Control of NCDs signed at a ministerial level, and in strategic documents issued by the Department of Health (South Africa Department of Health, 2011; South Africa Department of Health, 2012; South Africa Department of Health, 2016b). Like other countries belonging to the WHO or the FAO, South Africa must pay for its membership to be able to participate within the decision-making structures of these organisations. South Africa also has rights and obligations associated with its membership (World Health Organization, 2014; Food and Agriculture Organization of the United Nations (FAO), 2017). Ultimately, these makeshift boundaries of power and authority open possibilities for indirect coercion.

While not necessarily a form of indirect coercion, there is no doubting the influence of the WHO as an authoritative source in the development of the South African sugar-tax policy (Roubal T., 2017; South African National Treasury and Revenue Services (SARS), 2017). In the Final Response Document on the 2017 Rates and Monetary Amounts Amendment of Revenue Laws Bill, as well as at various committee meetings with the government, the National Treasury and SARS unequivocally

and unambiguously stated their alignment with the WHO's position that excess sugar intake contributes to obesity, and that introducing a tax on SSBs is both a cost-effective means for addressing obesity and nutrition-related NCDs (South African National Treasury and Revenue Services (SARS), 2017).

An evidence-based approach as a tool of persuasion

The use of scientific evidence underpins the philosophy of international organisations, such as the WHO, the FAO, and Codex; characteristic evidence is used to identify issues and find solutions to the problem (Food and Agriculture Organization, 2004). Furthermore, from this policy review, the WHO's resolutions and decisions demonstrate that, as a matter of principle, it seeks to employ an evidence-based approach to decision-making and encourages Member States to do the same. The use of this evidence seemingly informed the rationale that guided decision-making in the South African policy landscape, both in terms of motivating for and formulating a tax on sugar in SSBs (Vorster HH, 2013; Cullinan, 2020). While it lends credibility to a policy solution, evidence is also a tool with power, which can be manipulated and used to persuade. A draft National Strategic Plan on the Prevention and Control of NCDs (2020–2025) recently highlighted the existence of concerns around legitimate evidence on the best-buys for LMICs, since studies are mainly from higher-income countries; however, these are the best available at present (South Africa National Department of Health South Africa, 2019)

Locally, evidence was used by various stakeholders, including civil advocate, government, international organisations, and industry, to advocate for their standpoint on the tax (South African National Treasury and Revenue Services (SARS), 2017; Cullinan, 2020; Roubal T., 2017). The Priority Cost-Effective Lessons for System Strengthening in South Africa (PRICELESS) is a research-to-policy unit at the University of the Witwatersrand that generates critical local evidence and engages policymakers in government. It collaborated with Healthy Living Alliance (HEALA), a global public

health organisation, to launch an evidence-based advocacy campaign to inform people about the harms of high-sugar intake, and to generate public support for the initiative (Cullinan, 2020). Based on previous experience, other LMICs are unlikely to have the advantage of a well-coordinated civil-society response to orchestrate a coherent counterattack on threats to the local implementation of policy ideas on sugar reduction.

Constraints on policy transfer

The findings of this study also showed that LMICs seeking to introduce policies to reduce sugar intake are beset with challenges, such as policy complexity and institutional feasibility. To gauge progress on implementing national policies on NCDs within budget allocations at the country-level, the WHO conducted surveys from 2010 to 2013 (United Nations Economic and Social Council, 2017). The results of the survey found that countries were "struggling to move from commitment to action" (United Nations Economic and Social Council, 2017). A variety of reasons for this are documented in the WHO's Director General report on the UNIATF. These range from policy expertise and technical skills required to raise domestic taxes on health-harming products, to shortcomings in terms of leadership and national capacity, as well issues of private interference and a lack of multilateral and bilateral action to support requests made for technical assistance (United Nations Economic and Social Council, 2017). The timeline of WHO reports and its interaction with South African policymakers on the development of the sugar tax show that the WHO has, as per its mandate, tried to support national governments to bridge the gap towards acquiring the level of expertise needed to design and administer taxes that meet policy goals effectively.

Additionally, the documents reviewed infer that the taxation on SSBs in South Africa was constrained by resistance to the policy from sectors outside of health, such as the labour and food industries and the private sector. On hearing the comments from stakeholders, National Treasury and SARs opted to "amend the design of the tax to mitigate job losses" (South African National

Treasury and Revenue Services (SARS), 2017). The documents reviewed provide limited insights into the consultation process that took place prior to the introduction of the HPL. The comments from industry on job losses are relatively typical, according to a WHO advocacy information document entitled “Health taxes: a primer for WHO staff” (World Health Organization, 2018b). Another argument is that taxes are regressive, implying that they disproportionally affect the poorest (World Health Organization, 2018b). In 2019, COSATU, South Africa’s largest trade union, criticised increases proposed in the HPL stating that it “appears that government had abandoned its transition commitments to protect vulnerable workers’ jobs in those sectors” (South Africa National Council of Provinces, 2019).

Relevance for other LMICs

It is our view that much could be learnt from the South African experience for other LMICs related to the successful adoption of these measures. Not investigated in this study was health promotion, a policy option also promoted at the global level. However, South Africa’s NFNSP for 2018–2023 does include an objective to apply an integrated communication strategy aimed at influencing people’s ability to make “informed food and nutrition decisions”, indicating that government is active in this area (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017). The Western Cape Government Household Food and Nutrition Security Strategic Framework speaks about an initiative called the Western Cape on Wellness (WoW!) Programme that supports healthy eating and healthy lifestyles in the province (Western Cape Government, 2016).

This study also did not analyse food programmes and agriculture policies, although the policy documents were searched for. As such, this area should be explored more fully to provide a comprehensive assessment of government efforts to promote healthy eating (World Health Organization, 2004). Promising government initiatives aimed in this direction include food gardens in

schools (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017). The Western Cape government authorities have also invested in urban agriculture, such as community gardens, home and school gardens and non-profit garden centres (South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017; Western Cape Government, 2016). Efforts to implement these types of policies could also contain instruction and inspiration for neighbouring countries who want to find workable solutions for integrating similar settings-based approaches to encourage people to eat more fruits and vegetables, while at the same time addressing food insecurity.

Lastly, learnings from the South African sugar industry's experience and strategic comeback could hypothetically offer lessons for other sugarcane and beet-growing countries faced with similar changes. In 2020, South Africa released the Sugarcane Value Chain Master Plan, a strategic sector plan detailing market-related forces, including the HPL, which have severely strained the industry due to the drop in national sugar consumption (South Africa Department of Trade and Industry, 2020). The Master Plan outlines a short-, medium- and long-term strategy that includes considerations for restructuring and diversifying the industry for growth, and commitments to job retention and mitigation (South Africa Department of Trade and Industry, 2020).

Conclusion

In conclusion, this study provides a comprehensive policy document analysis within the parameters specified and has used the designated conceptual framework to explore policy ideas related to sugar reduction and nutrition-led NCDs as they have emerged over the span of 20 years. As far as we are aware, no other studies have applied Dolowitz and Marsh's policy transfer framework (2000) to analyse policy documents concerned with nutrition-related health. Our policy analysis also stands out in this area for its approach to analysing multilevel policy transfer, and for taking into

consideration various policy options pertaining to the reduction of sugar intake for the prevention and control of NCDs, certainly within the South African health policy landscape, if not globally. Therefore, this study therefore offers a unique perspective and departure point for other researchers in HPA in LMICs hoping to understand the transfer of policy ideas on reducing sugar intake for preventing and controlling NCDs within their context.

South African policymakers have in stages throughout the years followed global prescripts to develop a set of policies to address unhealthy diets and also specifically high sugar intake for preventing and controlling NCDs and their risk factors – even navigating a contested policy process with success. While there is still more to do, the policy progress South Africa has made contains a variety of insights that other policymakers can also draw from.

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PART C: Appendices

Appendix A: Systematic policy review search strategy

Key words for search

PRIMARY TERM	KEY TERM OF INTEREST	ALTERNATIVE TERMS	SUB-TERMS (INTERNAL SEARCH)
CHRONIC DISEASE/S	**NCD(s)**	Noncommunicable Disease, Non-infectious Diseases, Chronic Disease, Non-communicable	Diabetes, hypertension
DIET		Nutrition, food	Sugar, beverage, overweight and obesity (overnutrition)
SUGAR		Sugars, sugar-sweetened	Nutrition, diet, food, overweight and obesity (overnutrition)
POLICY/IES	**RESOLUTIONS / DECLARATIONS**	Policy, legislation, regulation	Nutrition, diet, taxation, tax, taxes, labelling

Databases and websites search strategy

GLOBAL		
WEBSITE	**SEARCH TERMS**	**TITLE/INTERNAL SEARCH**
Search date: 1 January 2000 – 1 November 2020		
NCD explicit, DIET implicit		

Google (WHO) site: https://www.who.int /	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars
	allintitle: "Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" site:https://www.who.int/ filetype:pdf	Diet, nutrition, food, sugar, sugars
** Now Chronic diseases includes infectious	allintitle: "Chronic disease" OR "chronic diseases" site:https://www.who.int/ filetype:pdf	Diet, nutrition, food, sugar, sugars
World Health Organization **https://www.who.int/**	"Non-communicable disease" OR "Non-communicable diseases" "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "noninfectious" OR "non-infectious"	Diet, nutrition, food, sugar, sugars
	[Type: publication] [WHO Regional sites: Global]	Diet, nutrition, food, sugar, sugars
	[Type: guideline] [WHO Regional sites: Global]	Diet, nutrition, food, sugar, sugars
Google (FAO) site:http://www.fao.org/home/en/	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars

Food and Agriculture Organization of the United Nations Site: http://www.fao.org/home/en/	Non-communicable disease (returned results for “noncommunicable”, disease(s)	Diet, nutrition, food, sugar, sugars
NCD explicit, DIET explicit		
Google (WHO) site:https://www.who.int/	(“Non-communicable disease” OR “Non-communicable diseases” OR “NCD” OR “NCDs” OR “Noncommunicable disease” OR “Noncommunicable diseases” OR "non-infectious" OR "noninfectious") AND (“Diet” OR “Nutrition” OR “food” OR “sugar” OR "sugars") filetype:pdf	Sugar
World Health Organization https://www.who.int/	(“Non-communicable disease” OR “Non-communicable diseases” OR “NCD” OR “NCDs” OR “Noncommunicable disease” OR “Noncommunicable diseases” OR “noninfectious” OR “non-infectious”) AND (“Diet” OR “Nutrition” OR “food” OR “sugar” OR “sugars”) filetype:pdf	Sugar

REGIONAL		
WEBSITE	**SEARCH TERMS**	**TITLE/INTERNAL SEARCH**
Search date: 1 January 2000 – 1 November 2020		
NCD explicit, DIET implicit		
WHO Regional Office for Africa	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars
African Union Site: https://au.int	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars, tax
Southern African Development Community (SADC) Site: https://www.sadc.int	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars, tax,
Commonwealth Site: https://thecommonwealth.org	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars, tax

SOUTH AFRICA		
WEBSITE	**SEARCH TERMS**	**TITLE/INTERNAL SEARCH**
Search date: 1 January 2000 – 1 November 2020		
NCD explicit, sugar explicit		
Bills, Government Gazettes, Parliamentary documents and National Legislation via Sabinet Site: sabinet.co.za	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" AND "sugar" or "sugars" filetype:pdf	
NCD explicit		
Parliamentary Monitoring Group	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	
Department of Health Site: health.gov.za	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	

Sugar explicit		
Bills via Department of trade Site: DTI.gov.za	"Sugar" or "sugars" filetype:pdf	
SARS Site: sars.gov.za	"Sugar" or "sugars" filetype:pdf	
Department of Health Site: health.gov.za	"Sugar" or "sugars" filetype:pdf	

WESTERN CAPE		
WEBSITE	**SEARCH TERMS**	**TITLE/INTERNAL SEARCH**
Search date: 1 January 2000 – 1 November 2020		
NCD explicit, sugar explicit		
Provincial gazettes, provincial legislation, municipal by-laws via Sabinet Site: sabinet.co.za	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" AND "sugar" or "sugars" filetype:pdf	
Sugar explicit		
Open gazettes Site: opengazettes.org	"Sugar" or "sugars" filetype:pdf	
NCD explicit		
Open gazettes Site: opengazettes.org	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	
Western Cape Government Site: https://www.westerncape.gov.za	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars, tax
Western Cape Government, Department of health	"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR	Diet, nutrition, food, sugar, sugars, tax

Site: https://www.westerncape.gov.za	"Noncommunicable diseases" OR "non-infectious disease" OR "noninfectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	

Appendix B: Data management plan

ADMINISTRATIVE	
Project name	Limiting sugar intake: policy document review
Project description	Master's thesis examining policy documents on diet for the prevention and control of NCDs with specific reference to limiting sugar intake in populations at the global, Africa region and South African national and local context
Principle investigator/researcher	Nicole McCreedy
Date first version of DMP completed	26 July 2020
Date of last version update	N/A
Related Policies	The University of Cape Town has a Research Data Management (RDM) Policy available online.
DATA COLLECTION	
Data description	Policy documents (recommendations, guidelines, declarations, resolutions and statements) that include directives on sugar intake for the prevention and control of NCDs. For example: • UNGA resolutions • ECOSOC documents • WHO guidelines on sugar intake for adults and children • South African national treasury policy paper on the taxation of sugar sweetened beverages
Data organization	Data will be collected following a set naming convention for peer-reviewed articles (Author name, year of publication) and for organizational reports (Name of organization, year of publication). Documents from the same institution published in the same year will marked A, B or C. A corresponding list of the policy documents included in the review will be kept in an excel spreadsheet according to the naming convention.
Format	PDF documents
DOCUMENTATION AND METADATA	

Documentation and metadata accompanying the data	An MS word document will be included in the project folder with an overview of each of the folders with a description of their contents/format and storage of the various documents.
STORAGE AND BACK-UP	
Storage and back--up	The PDF documents will be stored in MENDELAY reference manager as part of the Global Diet and Activity Research (GDAR) project folders. A backup of all policy documents will be exported to ENDNOTE for this project. Data will be extracted using NVIVO software. All the codes from NVIVO will be exported as PDFs and stored via cloud computing (Google Drive).
Security	Security will be ensured by backing up on two separate reference management systems accessible from multiple devices.
Archiving and preservation	All files for this project will be stored in a project folder on cloud computing (Google Drive). A compressed version of the folder will also be stored on Drobox.
ETHICS AND COMPLIANCE	
Management of ethical issues	This is a document review and does not require the consent of participants.
Intellectual property rights	This project falls within the broader supervision of the GDAR project and work related to the scoping, data collection and analysis of the global policies documents for work package 3 was shared with two other researchers (Maylene Shung-King and Amy Weimann). IP is therefore shared with other researchers in relation to the GDAR project. This includes Tolu Oni who has oversight of the whole GDAR project and has contributed to the intellectual development of the work package components.
DATA SHARING	
Accessing and sharing	As requested, and agreed within the scope of GDAR, the policy documents may be made available to other researchers for their own projects.
RESOURCES	
Resources required	Cloud computing on Google drive allows for free personal storage of up to 15mb. The backup on Drobox is also on a free storage personal account.

Appendix C: Codebook themes

PARENT NODE	CHILD NODE	DEFINITION
TITLE		Title

YEAR		Year endorsed
PURPOSE		Stated purpose of the document
	NCD only	If the purpose has an NCD focus only
	NCD-DIET	If the purpose has a focus on NCD and diet
MINISTRY/ AGENCY		Primary ministry / agency (e.g., WHO) responsible
	Other ministry	Other ministries named
NCD PROBLEM		Why are NCDs a problem? (how is this framed in the policy doc)
NCD ACTION WHO		Who should take action on NCDs? (Specific proposals)
OBJECTIVES		Main policy objectives
TARGET		Target population (s) (How is this construed)
GLOBAL POLICY REF		Specific reference to Global policy intentions, such as WHO Best Buys
IMPLEMENTATION		Accompanying implementation plans and related timeframes
	CHALLENGES	
	NEED	
DIET: NUTRITION PROPOSAL	Marketing	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Marketing
	Reformulation	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Reformulation
	Production	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Production of healthy food
	Processing	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Processing/manufacturing of healthy food
	Retail	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Retail of healthy food
	Public procurement	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Public procurement of healthy food
	Catering	Policy content -SPECIFIC TO DIET/NUTRITION (what should be done?): Healthy catering guidelines
	Trade	Policy content (what should be done?): Trade policy
	Fiscal	Policy content (what should be done?): Fiscal policy
	Agriculture	Policy content (what should be done?): Linking agriculture to food provision
	Promotion	Policy content (what should be done?): Social marketing and health promotion campaigns
	Labelling	Policy content (what should be done?): Nutrition labelling

	Education	Policy content (what should be done?): Nutrition education
	Health	
	Sugar	
DIET: NCD CAUSE		Framing and beliefs Specific to Diet: What are the causes of diet related NCDs (i.e., beliefs about the problem)?
DIET: STATE MARKETS		Framing and beliefs Specific to Diet: What is the role of the state in regulating markets?
RESOURCE		Resourcing: What commitments regarding resourcing are being made?
	Source	Where should the money come from?
GOVERNANCE		
	Responsibility	Governance - Who should coordinate a response?
	Leadership	Who's been identified as leaders for implementation
	Sectors	Which sectors are most important?
	Level of commitments	Reference to regional or international commitments?
	Accountability	Are there any suggestions regarding accountability? What are the accountability mechanisms for the countries assigned as responsible?
POLICY TRANSFER		
	Policy content	What was transferred? E.g., Better practices
	Actors	Who was involved in transfer? E.g., WHO regional representatives
	Transfer from to where	Where was it transferred from to where? Which level of governance?
	Demonstrate policy transfer	Was this evident in policy legislation, statements, guidelines mentioned in policy documents?
	Voluntary or coercive	Was it voluntary or is there some form of accountability? Is it possible to say?

Appendix D: Policy transfer framework

Want to	Why transfer?	Have to	Who is involved in Transfer	What is transferred?	From Where			Degrees of Transfer	Constraints on transfer	How to demonstrate policy transfer	How transfer leads to policy failure
Voluntary	Mixtures	Coercive			Past	Within-a-nation	Cross-national	Multilevel			

Appendix E: Project timeline

Research Activity	Intended Timeline
1. Protocol submission	November 2020
3. Data collection	November 2020
4. Data Analysis	December 2020 – January 2021
5. Draft submission to MSK and final write-up	February 2021
7. Submission	March 2021
5. Journal “ready” manuscript	April 2021

Appendix F: Budget

Category	Item	Cost (ZAR)
Stationary	Pens	R 75,00
	Notebooks	R 50,00
Printing	Dissertation	R 350,00
Contingency	10%	R 150,00
Total		R 625,00

SOURCE: Author

Appendix G: Adapted Policy transfer framework

Adapted from Dolowitz and Marsh (1996 and 2000)(Dolowitz and Marsh, 1996) (Dolowitz and Marsh, 2000)

	Why transfer?								
Want to...		Have to..	Who is involved in transfer?	What is transferred?	From where?	Degree of transfer	Constraints on transfer	How to demonstrate policy transfer	How transfer leads to policy failure
Voluntary	Mixtures	Coercive			Multilevel				
Lesson drawing (perfet rational-ity)	Lesson drawing (bounded rationality)	Direct imposition	Elected officials	Policies	Global	Copying	Policy compexity	Reports (Commissioned/ Uncommissioned)	*Uniformed
	International pressures (Image) (Consensus) (Perceptions)		Bureaucrats/Civil servants	Ideologies	Regional	Emulation	Past policies	Conferences	*Incomplete
	Externalities		Consultants/ think tanks/ transnational corporations	Attitudes/cultural values	*National	Mixtures	Structural/ institutional feasibility (ideology) (cultural) (proximity) (technology) (economic) (bureaucratic)	Meetings/visits	*Innappropriate
	Conditionality (Loans) (Conditions attached to business activity)		Supranational institutions	*Programmes	*Subnational	Inspiration	Language	*Better practices/ online sharing platforms	
	Obligations			*Negative lessons				*Frameworks	
Adaptation of the model				Some aspects were not considered in detail (*) due to the focus of the review on policy directives and recommendations	The framework has been simplified. This includes transfer within-in-nation (*)			Mechanisms for sharing policy learnings identified (*) and added while the category for media was omitted	Due to type of policy documents and research question focus this category was not included in the analysis (*)
Explanatory note									

Appendix H: Search terms

SEARCH TERMS	TITLE/INTERNAL SEARCH
NCD explicit, DIET and/or SUGAR implicit	
"Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "non-infectious disease" OR "non-infectious disease" OR "non-infectious disease" OR "noninfectious diseases" filetype:pdf	Diet, nutrition, food, sugar, sugars, tax
NCD explicit, DIET and/or SUGAR explicit	
("Non-communicable disease" OR "Non-communicable diseases" OR "NCD" OR "NCDs" OR "Noncommunicable disease" OR "Noncommunicable diseases" OR "noninfectious" OR "non-infectious") AND ("Diet" OR "Nutrition" OR "food" OR "sugar" OR "sugars") filetype:pdf	Non-communicable disease, sugar, sugars, tax

Appendix I: Ethics approval

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room G50- Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6492
Email: hrec-enquiries@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

16 February 2021

HREC REF: 084/2021

A/Prof M Shung-King
Division of Health Policy & Systems
Falmouth Building
Email: Maylene.shungking@uct.ac.za
Student: Mccnic003@myuct.ac.za

Dear A/Prof Shung-King

PROJECT TITLE: REDUCING SUGAR INTAKE IN SOUTH AFRICA: A MULTILEVEL POLICY ANALYSIS OF HOW GLOBAL AND REGIONAL DIET POLICY RECOMMENDATIONS FIND EXPRESSION AT COUNTRY LEVEL-MASTERS CANDIDATE - MS NICOLE MCCREEDY-SUB-STUDY LINKED TO 205/2019

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee (HREC) for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

This approval is subject to strict adherence to the HREC recommendations regarding research involving human participants during COVID -19, dated 17 March 2020 & 06 July 2020.

Approval is granted for one year until the 28 February 2022.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

The HREC acknowledge that the student: Ms Nicole McCreedy will also be involved in this study.

Please quote the HREC REF 084/2021 in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval, where necessary, before the research may occur.

HREC/REF 084/2021sa

Appendix J: Codebook of the Policy transfer framework

Adapted from Dolowitz and Marsh (1996 and 2000)(Dolowitz and Marsh, 1996) (Dolowitz and Marsh, 2000)

CATEGORY	SUB-CATEGORY	DESCRIPTION
WHY TRANSFER CONTINUUM		
Why transfer? Is transfer voluntary? A continuum between want to and have to.	Voluntary	Lesson drawing (perfect rationality) commonly arises from dissatisfaction with the status quo as a result of policy failure or improper policy functioning. This leads policymakers or the public to seek "solutions" or lessons without external pressure (Dolowitz and Marsh, 1996). Characteristic of seeking out policy lessons under these conditions is having full information about options in choice of strategies best to pursue goals e.g. WHO "best buys".
	Mixture of voluntary and coercive elements	Lesson drawing (bounded rationality) occurs when decision-making is restricted by human (e.g. skills/capacity) or organisational characteristics (e.g. technology). The speed of technology can pressure governments to change and choose alternate institutional structures or practices (Dolowitz and Marsh, 1996).
		Indirect coercive (externalities or functioning co-dependence) may include international pressure, perceptions by policymakers such as the fear of being left behind or conditions such as loans or obligations.
	Coercive	Direct imposition from pressure groups, political parties, policy entrepreneurs/experts or supranational institutions that chooses to encourage or even forces a government to assume policy lessons following international consensus on an issue (Dolowitz and Marsh, 1996).
ACTORS		
Who is involved in policy transfer?	Elected officials	Political representatives may either be directly or indirectly involved in the policy transfer process through setting a country's value direction or legitimating the adoption of programmes (Azatyan).
	Bureaucrats/civil servants	Public servants may be involved in two ways, either through the process of generating research that can support policymakers in making decision-making or by facilitating information flow between higher-up officials (Azatyan).
	Pressure groups	Institutions, interest groups or collections of stakeholders in issue networks are internationally well-connected and will advocate on a specific policy agenda (Richardson, 2000).
	Policy entrepreneurs/experts	Think tanks, knowledge institutions (KI), academics, consultants and other experts are important for three reasons, namely: the advocacy of lessons or ideas: their ability to collect, sort and distribute specialised information; and,

		lastly, for having well-developed networks formed as a result of their expertise in subject area (Dolowitz and Marsh, 1996) (Stone, 2000).
	Supra-national governmental and non-governmental institutions	Intergovernmental and international organizations such as the European community, OECD, World Bank, United Nations and trans-national corporations encourage exchange of ideas between countries. Well-connected with government, they also directly or indirectly lobby for certain policies. In addition, global agencies tend to focus on programmes in developing countries and often promote comparison between countries (Dolowitz and Marsh, 1996).
POLICIES		
What is transferred?	Policy goals	The goals describe the desired outcomes or what should be realised as a result of implementing the policy. Goals may be transferred either in whole or part.
	Content	The language or exact wording may be paraphrased or policy discourse expressed in policies used in other contexts. Initial studies on policy diffusion tended to focus on the transfer of structure, this evolved to include content as it became known as policy transfer (Dolowitz and Marsh, 2000). The content includes policy proposals that articulate a set of preferred options or recommendations.
	Policy instruments	Economic tools such as taxes, regulations or productivity measures are the types of policy instruments or administration techniques that may be adopted (Dolowitz and Marsh, 2000). The early literature indicated that this would take place from one country to another.
	Policy programmes	A policy programme may be described as specific courses of action or called an intervention. Programmes are implemented to create improvement in response to identified challenges. Policies which are broader intentions of statement can have multiple programmes, whereas a programme is "complete course of action in and of itself" (Dolowitz and Marsh, 2000). Policy programmes are usually transferred at the country
	Institutions	Institutions including those used to implement policy can be transferred (Dolowitz and Marsh, 1996).
	Ideologies	The collection of ideas or beliefs of a government or institution underpinning a policy can be transferred (Dolowitz and Marsh, 1996).
	Ideas, attitudes and concepts	Policy ideas spread through various avenues including professional organisations, networks of specialists, policy entrepreneurs, the media or chance communication (Wolman). Ideas from outside the political system can persuade politicians to elevate an issue onto the policy agenda (Wolman). The transfer of belief systems, attitudes political culture underlying policies may be more challenging to identify than examples of structure (Wolman).
	Negative lessons	Negative lessons can be extracted to illustrate what should not be done (Dolowitz and Marsh, 1996).
DIRECTION OF TRANSFER		
Where was it transferred from to where? I.e. From where are lessons drawn?	Multilevel governance	Multi-level governance is becoming more frequent phenomenon, with horizontal linkages established between international, national, regional and local levels (Evans and Davies, 1999).

DEGREE OF TRANSFER		
How much is transferred?	Copied	A policy is transferred directly and completely. Policy goals, content and programmes are predominantly transferred.
	Emulated	The ideas supporting the policy or programme are transferred (Dolowitz and Marsh, 2000). Copying an entire policy or programme is rejected, however there is an acceptance that the policy identified elsewhere provides the best standard for designing legislation locally and then the idea is built up in a local environment (Dolowitz and Marsh, 1996) (Azatyan).
	Mixtures (hybridisation/synthesis)	Combinations involving several different policies (Dolowitz and Marsh, 2000).
	Inspiration	Policy elsewhere may be the inspiration for policy change, however the final outcome of the policy is not contingent on the original idea (Dolowitz and Marsh, 2000).
CONSTRAINTS ON TRANSFER		
What determines the likelihood and success of policy transfer?	Policy complexity	Complex policies such as those with multiple components are more challenging to transfer, compared to simpler polices where there is a single goal, less complicated problem to solve, more information about the policy, fewer perceived side-effects and more easily predictable outcomes (Dolowitz and Marsh, 1996).
	Structural Institutional Feasibility	The ideological or cultural similarity between the sites from which policy is being transferred are factors that may influence the feasibility of policy transfer, as are physical proximity, technology in use, or the economic, bureaucratic or political structure of country (Dolowitz and Marsh, 1996).
DEMONTRATE TRANSFER		
How was the policy transfer marketed to stakeholders?	Reports	Commissioned or un-commissioned reports are principal information sources used to articulate the proposed policy change. Reports can provide details on traits of the policy considered that could have relevance when transferring policy to another setting (Azatyan).
	Internet/online platforms	Much communication these days takes place online and these technologies also play a key role in policy formation. Ideas can be easily shared and feedback obtained from interested parties (Azatyan).
	Better practices*	Best practices of policies and programmes have become common use to influence the process of policymaking and is considered to be an effective means of promoting policy transfer. A perception of better practices can be that they may be applied with similar effect in another setting and that their development and dissemination will result in positive outcomes of policy and practice elsewhere (Stead, 2012).
	Conferences/meetings/visits	Conferences, roundtable events, group meetings or visits may be arranged with certain target audiences who have a stake in the policy to communicate the proposed change with them and also to get their feedback on the proposal (Azatyan).

Appendix K: List of documents included in the document analysis

Document type	Reference	Year	Org.	Title	Description
Global					
Report	(Food and Agriculture Organization, 2004)	2004	COAG	FAO's Proposed Follow-up to the Report of the Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases	The document facilitated the COAG's review of the WHO/FAO Expert report recommendations addressing the relationship on diet and chronic disease, from a food and agricultural perspective. The report makes an explicit recommendation on the nutrient-specific intake of sugar
Resolution and decisions, Annexes	(World Health Organization, 2004)	2004	WHO	Fifty-Seventh World Health Assembly. WHA57.17 Global strategy on diet, physical activity and health	The Global strategy on diet, physical Activity is endorsed and Member States are urged to implement the Strategy (contained in the Annex).
Resolution and decisions, Annexes	(World Health Organization, 2007)	2007	WHO	Sixtieth session, First Special session, WHA60.23 Prevention and control of noncommunicable diseases: implementation of the global strategy	Resolution WHA60.23 urges member states to initiate action and make resources available to address NCDs according to national circumstances and requests the Director-General to provide support through various means available (e.g. networking programmes, dialogue between Member states). Progress is to be reported on every two years to the Health Assembly.
Resolution and decisions, Annexes	(World Health Organization, 2007)	2007	WHO	Sixtieth session, First Special session, WHA60.24 Health Promotion in a Globalized world	Resolution WHA60.24 called for greater recognition of the underlying determinants and that health promotion contributions to the achievement of health for all. Member States to invest in health promotion including establish multisectoral mechanisms for addressing these through the life-course. Director-General requested to convene multisectoral conferences, facilitate information exchange and advocate policies that impact health positively.
Report on matters arising from WHO/FAO	(Codex Alimentarius Commission, 2007)	2007	CODEX	Codex committee on food labelling, thirty-fifth session, Ottawa, Canada, April 30 - May 4 2007	The document relates to matters referred to the committee by WHO/FAO on the implementation of the WHO Global Strategy on diet, physical activity and health. It contains the feedback from countries as well as industry associations on explicit proposals on amending the purpose of the guideline on Nutrition labelling, that Nutrient Reference Value be mandatory on pre-packaged food labels, the development of Nutrition Claims for saturated fatty acids/trans fats, expanding the Quantitative Declaration of Ingredients (QUID) to include sugars, saturated fatty

					acids and sodium and making their declaration mandatory as well Modification of Standardised Foods. Industry comments on what constitutes free sugars and existing labelling provisions offer insight into the perspectives of different actors.
Guidelines and standards	(World Health Organization and Food and Agriculture Organization, 2007)	2007	CODEX	Codex Alimentarius Food Labelling.	The fifth edition on Food Labelling contains texts adopted by the Codex Alimentarius Commission until 2007.
Resolution and decisions, Annexes	(World Health Organization, 2008)	2008	WHO	Sixty-First World Health Assembly WHA61/2008/REC/1, WHA61.14 Prevention and control of noncommunicable diseases: implementation of the global strategy	Resolution WHA61.14 endorses the Action plan for the global strategy for the prevention and control of noncommunicable diseases (in the Annex). The aim of the evidence-based Action plan was to initiate intersectoral and multilevel response on NCDs between 2008–2013. Objectives and actions are outlined for Member States, the Secretariat and international partners and there is a focus is place on LMICs and vulnerable populations.
Resolution and decisions	(World Health Organization, 2010)	2010	WHO	Sixty-third World Health Assembly: Resolutions and decisions annexes. WHA63.14 Marketing of food and non-alcoholic beverages to children	Resolution WHA63.14 recognized the risk of unhealthy diets for NCDs imposed from childhood throughout life and for overweight/obesity, which can be managed by consuming foods low in fats, free sugars or salt to avoid NCDs. Resolution endorsed and Members States urged to implement a set of recommendations and introduce/strengthen existing policies of marketing/advertising of foods such as sugar. Director-General to support through existing regional networks (or establishing new ones) and strengthening international co-operation etc.
Declaration	(World Heath Oganization, 2011)	2011	WHO	First Global Ministerial Conference on Healthy Lifestyles and Noncommunicable Disease Control Moscow, 28-29 April 2011. Moscow Preamble	Ministers recognize the burden of NCDs, the need to shift thinking on NCDs from biomedical to structural determinants and that NCDs should be integrated into health. A commitment was made to take action at the whole government level, within the Ministry of Health and to work with organizations/agencies including supporting the development of a comprehensive global monitoring framework on NCDs.
Report of the Secretary General	(United Nations General Assembly, 2011)	2011	UNGA	Prevention and control of non-communicable diseases Report of the Secretary-General	The report contains an extensive list of recommendations for Member States, the private sector, UN agencies and international organizations on the prevention and control of NCDs. For example, Member states are advised to implement cost-effective and population-wide interventions addressing unhealthy diets and to implement the Global strategy (WHA57.17).
Resolution	(United Nations General Assembly, 2012b)	2012	UNGA	Resolution adopted by the General Assembly: Political Declaration of the High-level Meeting of the General	Resolution 66/2 expresses the commitment by Heads of State and Government as well as representatives that assembled for the UN High-level meeting on the prevention and control of NCDs in September 2011 to address the issue, with a

				Assembly on the Prevention and Control of Non-communicable Diseases, 66th session	particular focus on development challenges as well as social and economic impacts. Signatories agree to promote development of cost-effective interventions on sugar, and discourage the production and marketing of unhealthy foods.
Matters arising from WHO/FAO	(Codex Alimentarius Commission, 2012)	2012	CODEX	Joint FAO/WHO Food Standards Programme Committee on Food Labelling Fortieth Session. Ottawa.	Matters of interest arising from FAO/WHO are reported on at the COAG session. Topics covered include the High-level meeting of the UN General Assembly on the Prevention and Control of NCDs; the FAO capacity development tool for nutrition labelling; Salt reduction; Marketing of foods and non-alcoholic beverages to children; Fruit and vegetable consumption; the WHO Nutrition Guidance Expert Advisory Group (NUGAG) etc.
Report of the Director-General	(United Nations General Assembly, 2012a)	2012	UNGA	Note by the Secretary-General transmitting the report of the Director-General of the World Health Organization on options for strengthening and facilitating multisectoral action for the prevention and control of non-communicable	The report set out options for strengthening and facilitating multisectoral action for the prevention and control of NCDs (pursuant of UNGA resolution 66/2). Explicit examples are provided on the potential health effects of multisectoral action including for Unhealthy diet and the reduction of sugar, saturated fat and salts. The report also contains suggestions from whence lessons may be drawn from global health partnerships in relation to promoting multisectoral action that may be applied at country or global level (e.g. NCD Alliance).
Resolution and decisions, Annexes	(World Health Organization, 2012)	2012	WHO	Sixty-Fifth World Health Assembly WHA65/2012/REC/1., WHA65(8) Prevention and control of noncommunicable diseases: follow-up to the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases	UNGA Political Declaration 66/2 para. 62 called for the preparation recommendations, for a set of voluntary targets for the prevention and control of the four main NCDs (CVD, cancers, chronic respiratory disease and diabetes) and their underlying risk factors including unhealthy diets. Member states and other stakeholders assembled at the WHA 65th session indicated support for the development targets on obesity, fat intake, alcohol, cholesterol. Sugar intake is not explicitly mentioned.
Guidelines	(Codex Alimentarius Commission, 2013)	2013	CODEX	Guidelines for the Use of Nutrition and Health Claims (CAC/GL 23-1997)	A non-addition claim for sugars is included in the Guideline last modified in 2013 by the Codex Committee on Food Labelling (CCFL).
Report of the Director-General		2013	UNGA	Prevention and control of NCDs, A68/650	The report marks the progress made in realising the commitments of the first High-level Meeting and UNGA resolution 66/2, which is highlighted as being insufficient and very uneven. A global roadmap for setting a new course and to support national efforts is proposed. This includes a comprehensive global monitoring framework consisting of 9 voluntary targets set out in the Global action plan for the prevention and control of NCDs 2013–2020 as well as the terms of reference for a United Nations Inter-agency Task Force (UNIATF) on NCDs. The efforts of private sector on implementing initiatives on food reformulation and labelling of foods high in sugar are acknowledged, but that these foods are unaffordable and inaccessible in LMICs.

Resolution and decisions, Annexes	(World Health Organization, 2013b)	2013	WHO	Sixty-Sixth World Health Assembly WHA66/2013/REC/1, WHA66.8 Follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of NCDs	Resolution WHA66.8 endorses the global action plan for the prevention and control of NCDs (2013–2018) contained in the Annex. The Action plan encourages Member States to develop guidelines, recommendations or policy measures on the reduction of content of free and added sugars in food and non-alcoholic. Added as an additional indicator (i.e.not directly related to one of the 9 voluntary targets where sugar is not mentioned) is policies to reduce the impact of marketing and advertising of products high in free sugars.
Declaration	(Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO), 2014)	2014	FAO	Conference Outcome Document: Rome Declaration on Nutrition. Second International Conference on Nutrition	Ministers as well as Representatives from WHO/FAO commit to action on promoting diversified healthy diets by enhancing food systems and developing public policies across the food chain as well as empowering people to make informed choices in relation to healthy diets. The avoidance of sugar in excess is regarded as part of improving nutrition and healthy diets. The influence of environmental determinants on people's diets, especially the intake of trans-fats, sugar and salt/sodium is recognised.
Strategies and plans	(Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO), 2014)	2014	FAO	Conference Outcome Document: Framework. Second International Conference on Nutrition.	The voluntary Framework for Action offered guidance on implementing commitments of the Rome Declaration (ICN2). An extensive set of policy and programme options are made to create an enabling environment and for the improvement of nutrition in all sectors. One explicit recommendation is made on the gradual sugar reduction sugars (as well as saturated and salt/sodium) in foods and beverages to curb excessive intake in consumers.
Guideline	(World Health Organization, 2015b)	2015	WHO	Guideline: Sugars intake for adults and children	The Guideline recognises that the influence of excess consumption free sugars may have in relation to the energy density of diets, non-nutritional calories and weight gain. Sugar in SSBs is highlighted as a particular concern along with dental caries caused by sugar consumption (dental disease being a prevalent NCD globally). Explicit evidence-based nutrient-intake specific recommendations are made to limit sugar intake in adults and children.
Report of the Director General	(United Nations Economic and Social Council, 2017)	2017	UN Economic and Social Council (ECOSOC)	United Nations Inter-Agency Task Force on the Prevention and Control of Non-communicable Diseases E/2017/54.	The Report of the Director-General on the UNIATF in review of the global burden on NCDs highlights the country-level challenges observed by the Task Force in moving from commitment to action on NCDs (incl. private sector interference with regards to fiscal measures on SSBs among others). The report contains a list of recommendations directed at the ECOSOC including to call upon (use its influence) upon bilateral and multilateral donors to assist in strengthening capacity in developing countries to introduce regulations on health-harming products. Implicit would be taxes on sugar in SSBs.

Resolution and decisions, Annexes	(World Health Organization, 2017c)	2017	WHO	Seventieth World Health Assembly WHA70/2017/REC/1, WHA70(19) Report of the Commission on Ending Childhood Obesity	The decision is taken to implement the action plan on obesity, urge member states to develop national policies/actions and request of the Director-General report on progress of the Plan to the WHA. Furthermore, in the document Annex is the Preparation for the third High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases, to be held in 2018: updated Appendix 3 to the global action plan for the prevention and control of noncommunicable diseases 2013–2020. A more comprehensive updated menu of policy options of cost-effective interventions that includes as an enabling actions considered part of addressing unhealthy diets, an option on taxation of SSBs, not previously included in the Global Action Plan (2013–2020).
Guidelines and standards	(Codex Alimentarius Commission, 2017)	2017	CODEX	Codex Guidelines on Nutrition Labelling Revised	
Resolution and decisions, Annexes	(World Health Organization, 2018e)	2018	WHO	Seventy-First World Health Assembly WHA71/2018/REC/1, WHA71.2 Preparation for the third High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases, to be held in 2018	The outcome document of the WHO Global Conference on NCDs – "Montevideo roadmap (2018–2030) on the prevention and control of Noncommunicable Diseases as a sustainable development priority – is recognised for its contribution to the preparatory process ahead of the third High-level Meeting. The Roadmap recognises the importance of addressing unhealthy diets as a risk factor for addressing SDG 3 and that coherent action is needed across sectors/stakeholders. Particular concerns are noted with regards to high consumption of saturated fats, salt and sugar as part of unhealthy diets (energy-dense/nutrient poor). Private sector encouraged to reformulate unhealthy foods and use food labelling that includes information on sugar (and fats/salt). WHO are encouraged to disseminate knowledge and best practices on multisectoral actions through WHO GCM/NCDs "communities of practice" to support countries.
Resolution	(United Nations General Assembly, 2018)	2018	UNGA	Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases A/RES/73/2	Reducing sugar intake is framed within the context of empowering individuals to make healthy choices supported the development of enabling environments and population-wide and targeted health promotion campaigns. The private sector is invited reformulate foods with consideration of reducing sugar intake as well as commit to further limit the exposure of children to sugar, fats and salt by reducing marketing and advertising of these foods/beverages to them.
Report of the Director General	(United Nations Economic and Social Council, 2019)	2019	UN Economic and Social Council (ECOSOC)	United Nations Inter-Agency Task Force on the Prevention and Control of Non-communicable Diseases E/2017/54.	Highlights the work of UNIATF's Global joint programmes and initiatives on multisectoral action on NCDs. Investment cases describing impact of NCDs were initiated in 2016, among them were country's experience of introducing SSBs as well as childhood obesity campaigns and ones on raising awareness of risk factors.

Report of the Director General	(World Health Organization, 2019b)	2019	WHO	Outcome of the Second International Conference on Nutrition: Report by the Director-General A72/58.	The first biennial report on the implementation of the Rome Declaration commitments (for 2017/18 period). Country-level implementation of policies such as taxation on SSBs (59 countries), mandatory regulations on marketing to children (46), front-of-pack labelling (8 mandatory), banning of food and drink vending machines in schools (28) was reported on via various reporting systems. Intensified action was called for in scaling up SMART commitments including around intersectoral policies, food systems for the improvement in nutrition and healthy diets as well as school-based education to reach youth educating them to avoid sugar. In the context of food systems, greater emphasis was highlighted in five aspects: creating healthy food environments, including the marketing of foods and beverages to children, nutrition labelling, food procurement in public institutions and price policies.
Africa region					
Strategies and plans	(World Health Organization Africa, 2012)	2012	WHO	Oral health in the WHO African Region: A regional strategy (1999–2008) in Compendium of Health Strategies	The strategy was reviewed and adopted by the Regional Committee. 'Prudent' use of sugar mentioned in relation to dental caries.
Strategies and plans	(World Health Organization Africa, 2016)	2016	WHO	Regional Oral Health Strategy 2016-2025: Addressing Oral diseases as Part of Non-communicable Diseases	The strategy was reviewed and adopted by the Regional Committee. There is a strong focus on addressing oral disease as a common NCD. Sugar as part of unhealthy diet is seen as risk factor for NCDs and that that high sugar intake causes diabetes, obesity and dental caries, as such consumption should be limited in line with the WHO Guideline on sugar intake in adults and children (2015).
Report of the Secretariat	(World Health Organization Regional Office for Africa, 2018)	2018	WHO	Status of the Implementation of the Four Time-bound Commitments of NCDs	The report of the Secretariat highlighted the issues and challenges Member States, particularly from the Africa Region, encountered in implemented action on commitments to prevent and control. Little or no progress had been made in the region. Member States limited capacity to raise domestic taxes through health-harming products such as taxes on unhealthy foods and beverages was identified as a constraint under inadequate funding for NCDs. Various actions are proposed for Member States including strengthening of multisectoral NCD response, implementation of "Best buys" (as per updated Appendix of WHO Global Action Plan), taxing unhealthy foods and drinks as means to mobilise sustained resources for NCD response, introducing national food and nutrition policies and actions (part of Plan on Ending Childhood Obesity). Actions for WHO and partners include increased

					technical and financial support for countries to implement “Best buys”. Actions were reviewed and endorsed by the Regional Committee.
South Africa					
Guidelines	(South Africa Department of Health, 2007)	2007	Department of Health	Draft Guidelines relating to regulations governing the labelling and advertising of foods	A definition for sugar(s) is provided and total carbohydrates is defined as the sum of all sugars. Health and nutrition claim restrictions are made in relation to a list of foods identified as not essential to a healthy lifestyle and diet in Annexure 6 (includes soft drinks containing sweeter, fruit nectars, iced teas; sweet biscuits and flour confectionary, cakes, tarts etc.) Restrictions are placed on marketing and advertising of these in any school tuck shop or premises of foods listed. Under nutrient content claims for foodstuffs it states that: “The claim "no sugar added" or "no added sugar" or other words with a similar meaning shall not be made on the label of a foodstuff that contains added sugars defined by these regulations”. A product must contain no more than 0.5 gram of sugar per 100g/ml to be considered sugar free.
Regulations	(South Africa Department of Health, 2010)	2010	Department of Health	Foodstuffs, Cosmetics and Disinfectants Act, 1972: Regulations relating to the labelling and advertising of Foods	Definitions ‘added’, ‘intrinsic’ and ‘total sugar’ added. No claims for sugar remain unchanged. However, restrictions on marketing and advertising to children are absent. Annexure 2 contains an example of a label on pre-packaged/ready-to-eat food required under the Minimum Mandatory Nutritional Information Declaration (i.e. format for when nutritional information is required as per the Regulation or when presented voluntarily on a label). Total grams of sugars are to be listed as part of Glycaemic Carbohydrate content.
Strategies and plans	(National Planning Commission, 2010)	2010	National Planning Commission	Our future – make it work. National Development Plan 2030	The focus of the NDP is to eliminate poverty and reduce inequality by 2030. The NDP outlines a set of enabling milestones and critical actions for achieving these overarching goals. A milestone “ensure household food and nutrition security” is included and under the discussion on food security there is a recommendation to introduce policies increase intake of healthy foods and reduction sugar in diets that are implemented in tandem with agricultural policies to increase production of fruits/vegetables. The nutrition transition (increased intake of processed foods high in sugar/salt) affecting the black population is observed and a key policy proposal for agriculture and agro-processing sectors does identify policy measures to promote healthy diets and limit the intake of saturated fats, salt and sugar (as per the South African FBDG recommendations).
Declaration	(South Africa Department of Health, 2011)	2011	Department of Health	South African Declaration on the Prevention and Control of NCDs	Participants of the South African Summit on the Prevention and Control of NCDs held in September 2011 acknowledge the country’s quadrable burden of disease which includes NCDs, HIV, TB and high levels of maternal and child deaths. The assembled

					commit to among other creating an intersectoral stakeholder forum, working in partnership with relevant stakeholder, introducing evidence-based behavioural interventions and health promotion campaigns as well as legislation and regulations targeting the modifiable risk factors, implementing global strategies and plans (i.e. WHO Global strategy (2004) and Action plan (2008–2013)), improving quality of food gardens and quality of food available. Specific targets are also committed to including 10% reduction of obesity. No specific target on sugar is included (there is one for salt). Sugar is recognised as part of an unhealthy diet.
Strategies and plans	(South Africa Department of Health, 2012)	2012	Department of Health	Strategic plan for the prevention and control of non-communicable diseases 2013–17.	The Strategic plan followed on from the national Summit on NCDs in 2011. The plan is aligned with the UN Political Declaration on the prevention and control NCDs as well as the WHO Action plan (2008–2013). Key proposals of the Action plan highlighted included the implementation of a multisectoral response on NCDs, reducing their risk factors and creating a health-promoting environment, strengthening national policies and healthy systems as well as working together with private sector to address NCDs. The Strategic Plan contains an analysis of cost-effective interventions in the South African context or 'best-buy for tackling diet, physical activity and obesity' which rates fiscal measures (taxes) as most cost-effective followed by food advertising regulation and then food labelling.
Guidelines	(Vorster HH, 2013)	2013	Department of Health	Food-Based Dietary Guidelines for South Africa.	A set of food-based dietary guidelines based on scientific evidence for the promotion of healthy diets in the South African population. The FBDG contain a specific guideline on "Sugar and Health" that makes both a general recommendation on limiting sugar intake and provides nutrient-specific intake goals on sugar consumption. The role of sugar in SSBs in contributing to weight gain is also identified as a problem, together with sugar consumption and dental caries as well the relationship between sugar intake with obesity and type 2 diabetes.
Guideline and standards	(South Africa Department of Basic Education, 2014a)	2014	Department of Basic Education	Food Specifications – for products marketed to the National School Nutrition Programme	The Food specifications are targeted towards service providers of the NSNP and outlines the Department of Basic Educations intention to serve normal, balanced meals for learners from disadvantaged areas and to improve the quality the meals they are served with the guideline/standard. The document is subject to national Regulations on advertising and marketing of foodstuffs and non-alcoholic beverages and adheres to the FBDG-2013 (a copy of the recommendations are appended). Sugar is only mentioned in relation to peanut butter.
Guidelines	(South Africa Department of Basic Education, 2014b)	2014	Department of Basic Education	National School Nutrition Programme Guidelines for Tuck Shop Operators.	The NSNP tuck shop operator guidelines identify that unhealthy foods sold at tuck shops has a bad influence on learners and is associated with poor health outcomes.

					In addition to ensuring “good nutrition and healthy lifestyles” of learners, the guideline also aims to provide guidance for tuck shop operators on appropriate nutritional items and educate learners to make informed healthy choices. Sugary drinks noted as a bad practice while snacks loaded with sugar were identifies as low in nutritional quality.
Regulations	(South Africa Department of Health, 2014)	2014	Department of Health	Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972): Regulations relating to the labelling and advertising of foodstuffs: amendment.	The Regulations introduced for the first time specific mention on NCDs and the reduction of diet-related risk factors, as contained within several definitions e.g “evidence-based nutrition", “front-of-pack labelling” (FOP), “generic health promotion” and “Nutrient Reference Value”. The reduction of risk for the development to NDCs is also highlighted in relation to foods containing added fructose or added non-nutritive sweeteners. A section is added on non-addition claims expands on previous Regulations restrictions on “no sugar added” to include clarification on fruit or vegetable juice and when claims may/may not be made. A key change in the Regulation was the minimum mandatory nutritional information which included total sugar and was regulated to appear on all food labels except foods for sale by the home industry or otherwise stipulated in the Regulations.
Guide	(South Africa Department of Health, 2016a)	2016	Department of Health	National guide for healthy meal provisioning in the workplace.	The guide aimed to provide guidance for caterers responsible for providing meals in the workplace and indicates that they should be willing and committed to preparing healthy foods that include limiting fat, salt and sugar, a key principle of healthy eating. Information is provided for distinguishing between natural fruit sugar, added sugar or both contained within the ingredients list of products when grocery shopping. Explicitly not recommended are “carbonated soft drinks, sweetened or fruit juice blends, energy and sports drinks and flavoured sweetened water”. Myths and facts about healthy eating also contain reference to brown sugar, vitamin water as well as fruit juices. A section on how to read food labels as well as specific advice on the quantity of total sugar (25g or 6 level teaspoons) an inactive adults is permitted to consume as part of his/her energy allowances. This is based on the WHO Guideline on sugar intake in adults and children (2015). The guide also references the FBDG-2013.
Strategies and plans	(South Africa Department of Health, 2016b)	2016	Department of Health	Strategy for the prevention and control of obesity in South Africa 2015–2020	The strategy documents noted concerns related the prevalence of NCDs, high rates of obesity in adults and emergent in young children, the excess consumption of sugar, saturated fats and salt intake among South Africans versus low intake of vegetables and fruits and the lack of a multisectoral approach to address the problem of obesity. Key commitments were made on establishing an intersectoral platform to address both NCDs and obesity, creating health-promoting environments

					and empowering individuals, families and communities to healthy behavioural changes as well as strenthening settings-based interventions, schools and workplaces are identified. Quoting the Strategic Plan for the prevention and control of NCDs (2013–17) the Strategy shows the most cost-effective interventions to address, diet (namely food taxes on foods high in fats and sugar and food subsidies on healthy food), physical activity and obesity. For obesity only, the top three most cost-effective intervention is fiscal measures (taxes), food advertising regulation and food labelling. A multisectoral approach is strongly recommended. Specific time-bound targets for reducing obesity are also given.
Strategies and plans	(South Africa Coordination Committee and Department of Planning; Monitoring and Evaluation (DPME), 2017)	2017	National Department of Planning	National Food and Nutrition Security Plan 2018-2023	The NFNS Plan expressed the government's commitment to end hunger and eradicate malnutrition. Part of this is the NSNP feeding programme for learners to which the government planned to add food distribution centres linked to Food Distribution Centres (CNDCs) in Provinces. The need for an integrated National Plan was identified on evaluation of the policy environment, which showed that South Africa had around 60 policies, strategies, programmes and plans in this area however that the focus tended to be on food production rather than nutrition or consumption of nutritious foods. Listed under "what is to be done", is the need to change eating behaviours of those living in urban areas who are susceptible to poor food choices and the consumption of cheap energy-dense foods high in added sugar. The link between unhealthy diets, high intake of sugar, as risk factor for NCDs and that this risk accumulates throughout the life-course.
Act	(South African National Treasury and Revenue Services (SARS), 2017)	2017	National Treasury	Rates and Monetary Amounts and Amendment of Revenue Laws Bill 26 of 2017	The Bill contains the Health Promotion Levy with the rate at which sugar content (meaning intrinsic and added sugar and sweetening matter) on sugary beverages must be calculated on the food label as per the Foodstuffs, Cosmetics and Disinfectants Act, No. 54 of 1972; the certified sugar content and the "deemed sugar content of the sugary beverage that is assumed to constitute 20grams of 100 millilitres. The rate of 2.1 cents per gram of the sugar content that exceeds 4gram per 100ml is to be levied on cocoa powders, containing added sugars, and preparations for making beverages, syrups and concentrates including and excluding fruit juice, mineral waters etc.
Strategies and plans	(South Africa Department of Trade and Industry, 2020)	2020	Department of Trade and Industry	South African Sugarcane Value Chain Master Plan to 2030	The Plan is one of other Master Sector Plans targeting industry growth and was the end-result of a comprehensive stakeholder consultation process involving those who grow, distribute and manufacture products related to sugar cane, including workers and the government. The Plan sets a vision as well as short-term action plans and programme of work to be through joint Task Teams. The Plan seeks to address the

					immediate crisis facing the sugar industry, influenced in part by the HPL 2018, and to set a medium to long-term strategy for diversification of the value chain. Among government measures to support industry was the establishment of he NEDLAC task team to work on plans to forestall the impact of lower sugar consumption as a result of the HPL on job losses.
Guideline and standards	(South African Revenue Services (SARS), 2020)	2020	Revenue Services (SARS)	Excise External Policy Health Promotion Levy on Sugary Beverages	The SARS policy applies to manufactures in the sugar beverages industry. It operationalises collection of levies of the HPL enacted in 2018 as set out in the Rates and Monetary Amounts and Amendment of Revenue Laws Bill 26 of 2017.
Western Cape					
Strategies and plans	(Western Cape Government, 2014)	2014	Western Cape Government Health	Healthcare 2030.	The Strategy heralded a new era of healthcare reform in the Province guided by the principle of person-centredness and focused among its priority interventions on improving healthy lifestyles. The Province had identified an increase in the incidence of the four main NCDs and their most important risk factors which includes unhealthy diets that are typically high in salt, fats and sugar. Highlighted in the document was the need to weigh addressing the growing health needs in the Province against scarce resources, which are directed towards the most cost-effective interventions.
Strategies and plans	(Western Cape Government, 2016)	2016	Western Cape Government Health	Household Food and Nutrition Security Strategic Framework.	The evidence-based Framework was supported by a wide consultative process and sought to detect and improve nutrition in the Province's population. It aimed to accomplish this with a targeted and coherent approach for addressing household food and nutrition insecurity. Rising rates of obesity, overweight and diabetes at the national and provincial level are illustrated with data from national statistics along with where the burden of high sugar intake falls within the Provinces population. The Framework outlines local programmes that promote healthy eating as part of 'Food Awareness and Safety' such as the Wellness (WOW!) programme offers settings-based leader training (schools, workplaces, communities) and the Healthy Eating Guide available for those working in schools.
Guide	(Western Cape Government Education, 2020)	2020	Western Cape Government Education	Healthy Eating Guide	The Guide was developed by food retailer, Woolworths, the Western Cape Education Department, Sports Science Institute of South Africa (SSISA) in association with dieticians Shelly Meltzer & Associates. A list of ideas is provided on what types of foods and drinks should/should not be promoted. This includes not promoting those with "added sugars".

Appendix L: Overview of the findings

FINDING FROM GLOBAL LEVEL POLICY DOCUMENTS	FINDING FROM AFRICA REGION/NATIONAL AND/OR SUBNATIONAL LEVEL DOCUMENTS	TEXT EXTRACT (GLOBAL/REGIONAL)	TEXT EXTRACT (NATIONAL/SUBNATIONAL)
Unhealthy diets as a risk factor for NCDs			
• Sugar is identified as a component of an unhealthy diet, an underlying determinant for NCDs for any country (World Health Organization, 2004). In other words, it is a universal problem not restricted to one setting or population group.	• The concept of an unhealthy diet (high in sugar, salts and fats) as one of a group of common lifestyle-related risk factors contributing to the major NCDs is later articulated and fully accepted at the South African national strategic level of health in the second decade of this review (South Africa Department of Health, 2011; South Africa Department of Health, 2016b). • The strategic document on health for the Western Cape province, Healthcare 2030, also refers to the relationship between unhealthy diets and heart disease (NCDs) (Western Cape Government, 2014).	*"For all countries for which data are available, the underlying determinants of noncommunicable diseases are largely the same. Factors that increase the risks of noncommunicable disease include elevated consumption of energy-dense, nutrient-poor foods that are high in fat, sugar and salt…"p.36* **WHO Global strategy on diet, physical activity and health (2004)**	*"It has been well documented that the primary causes of cardiovascular disease, while partly genetic, are largely attributable to environmental factors, specifically an unhealthy lifestyle. The most important risk factors are a lack of regular physical exercise, long-term use of tobacco products and the consumption of an unhealthy diet characterised by a high intake of fat, salt and sugar" p.150* **Healthcare 2030 (2014), Western Cape Health**
• NCDs are later acknowledged to disproportionally affect people living in LMICs and vulnerable population groups [reference]	• South African policy documents also recognise that poor people buy cheaper foods and these types of foods contain more calories (energy-dense).	*"In the poorest countries, even though infectious diseases and undernutrition dominate their current disease burden, the major risk factors for chronic diseases are spreading. The prevalence of overweight and obesity is increasing in developing countries, and even in low-income groups in richer countries.." p.36*	*"Poor people have been reported to buy the least expensive foods that are gastronomically the most filling and energy-dense. As income available to buy food decreases, energy density correspondingly increases and this may translate into higher energy intakes and over-consumption. Energy-dense foods typically contain high quantities of fat, sugar and/or starch, such as fast foods, snacks and desserts, as*

		WHO Global strategy on diet, physical activity and health (2004), WHA57.17	*opposed to lower energy dense foods which are higher in fibre and micronutrients, such as fruits and vegetables".p.16* **Strategy for the prevention and control of obesity in South Africa (2015–2020)**
• Unhealthy diets are defined "as energy-dense, nutrient-poor foods that are high in fat, sugar and salt" (World Health Organization, 2004).	• The Strategy for the prevention and control of obesity speaks of energy-dense foods and provides illustrative examples of such as "fast foods, snacks and desserts". • The FBDG-2013 also talks of tasty "sugar-fat mixtures such as cakes" which have a "high energy-density, owed in no small part to sugar" (Vorster HH, 2013). The approach to the language has the effect of making concepts such as "energy dense" foods, described in global documents, more accessible to the ordinary layperson for practical application	*Factors that increase the risks of noncommunicable disease include elevated consumption of energy-dense, nutrient-poor foods that are high in fat, sugar and salt…"p.36* **WHO Global strategy on diet, physical activity and health (2004)**	*Energy-dense foods typically contain high quantities of fat, sugar and/or starch, such as fast foods, snacks and desserts, as opposed to lower energy dense foods which are higher in fibre and micronutrients, such as fruits and vegetables".p.16* **Strategy for the prevention and control of obesity in South Africa (2015–2020)**
• Unhealthy diets, physical inactivity and tobacco use and the harmful use of alcohol become known as the common, modifiable risk factors and efforts to prevent and control NCDs are focussed on them in the WHO Action plan (2008) (World Health Organization, 2008)	• Unhealthy diets have been identified as a problem in South Africa. The national Strategy on the prevention and control of obesity (2015–2020) reported that South African's consumed foods consisting of fats and sugar in excess, but their diets were lacking fruits and vegetables (South Africa Department of Health, 2016b).		*"The major Non-communicable Diseases are linked to common risk factors, namely unhealthy diets (high intake of fats, salt, sugar etc), physical inactivity, harmful use of alcohol and tobacco." P..71* **Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-17**
Limiting sugar intake			
• WHO/FAO experts propose a voluntary nutrient-specific goal for reducing sugar intake at a population level. The recommendation is to limit	• South Africans were cautioned on the moderate use of sugar in the food-based dietary guidelines (FBDG) of 2003. The more recently published FBDG-2013 contains a	*"The Experts' Report defines a population nutrient intake goal for free sugars of 10 percent or less of total energy supply. The Report*	*"…and decrease use and intakes of sweetened (sugary) foods and drinks." p.43*

high intake of free sugars[v] and a goal for free sugars of 10% or less of total energy per day is proposed (Food and Agriculture Organization, 2004)	guideline chapter on sugar and health, which provides both an overall recommendation as well as a nutrient-specific goals on restricting sugar intake (South Africa Department of Health, 2007; Vorster HH, 2013).	*acknowledges that this goal might be controversial, and it has indeed prompted concerns that its adoption might have an adverse impact on sugar producers and the food industry." P.7* FAO Follow-up report of the Joint WHO/FAO Expert consultation on diet, nutrition and the prevention of chronic disease (2004)	Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-17
• .WHO use of the term "free sugars", which is also identified as "non-extrinsic" and "added sugars" (World Health Organization, 2004) (Vorster HH, 2013).	• South African regulations use the term "added sugars" as opposed to "free sugars" which in the South African context has the same meaning as "free sugars" (Vorster HH, 2013).. Added sugars is used consistently by South African regulators despite the WHO preference (South Africa Department of Health, 2014).	*Source WHO 2004: The term "free sugars" refers to all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices.*	*Definition of "added sugars" means any sugar added to foods during processing, and includes but is not limited to: mono and disaccharides (sugars), honey, molasses, sucrose with added molasses, coloured sugar, fruit juice concentrate, deflavoured and/or deionised fruit juice and concentrates thereof, fruit nectar, fruit and vegetable pulp, dried fruit paste, high-fructose corn syrup (HFCS), malt or any other syrup of various origins, whey powder, milk solids or any derivative thereof.* South African Food-based Dietary Guidelines (FBDG-2013)

[v] Source WHO 2004: The term "free sugars" refers to all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices.

• The WHO Global strategy (2004) officially makes the recommendation to "limit sugar intake" (World Health Organization, 2004).	• The South African FBDG (2003) makes recommendation use sugar in foods and drinks sparingly. This is updated in 2013.	*"Limiting high intakes of free sugars, which provide energy without specific nutrients and increase the risk of unhealthy weight gain, improves the nutritional quality of diets and decreases the risk of dental decay" (Food and Agriculture Organization, 2004).* FAO Follow-up report of the Joint WHO/FAO Expert consultation on diet, nutrition and the prevention of chronic disease (2004)	*"Use sugar and foods and drinks high in sugar sparingly." p.S7* – South African Food-based Dietary Guidelines (FBDG-2013) *"The incidence of non-communicable diseases which consist mainly of cardiovascular diseases, cancers, respiratory diseases, diabetes and mental illness and its associated risk factors such as smoking and obesity is on the increase in the Western Cape." p.2* Healthcare 2030 (2014
• A decade later the WHO published an evidence-based guideline on sugar intake in adults as well as for children who were not previously highlighted (World Health Organization, 2015b). The nutrient-specific intake goals remain unchanged from their early inception and a life-course approach is recommended.	• The instruction to limit sugar intake also found expression in other policy documents issued around this time at the national level, including guidelines issued for schools and in the workplace (South Africa Department of Health, 2016a; South Africa Department of Basic Education, 2014b). Similar advice to refrain from foods high in "added sugar" was given in a Healthy Eating guide published in 2020 by the Basic Education department in association with other stakeholders (Western Cape Government Education, 2020).	*"WHO recommends a reduced intake of free sugars throughout the lifecourse (strong recommendation).* • *In both adults and children, WHO recommends reducing the intake of free sugars to less than 10% of total energy intake (strong recommendation).* • *WHO suggests a further reduction of the intake of free sugars to below 5% of total energy intake (conditional recommendation)". p.4.* WHO Guideline on sugar intake in adults and children (2015)	*"We propose that an intake of added sugar of 10% of dietary energy is an acceptable upper limit. However, an intake of < 6% energy is preferable, especially in those at risk of the harmful effects of sugar, e.g., people who are overweight, have prediabetes, or who do not habitually consume fluoride (from drinking fluoridated water or using fluoridated toothpaste). This translates to a maximum intake of one serving (approximately 355 ml) of SSBs per day, if no other foods with added sugar are eaten." p.S100* – South African Food-based Dietary Guidelines (FBDG-2013)
• Limit intake of SSB	• Scientific evidence linking sugar sweetened beverages to overweight/obesity	*"The Fifty-seventh World Health Assembly,* *Reaffirming that appropriate intake levels for energy, nutrients and foods, including free sugars, salt, fats, fruits, vegetables, legumes, whole grains,*	*"Over the past decade, a considerable body of solid evidence has appeared, particularly from large perspective studies, that strongly indicates that dietary sugar increases the risk of the development of obesity and type 2 diabetes, and probably cardiovascular*

		and nuts shall be determined in accordance with national dietary and physical-activity guidelines based on the best available scientific evidence and as part of Member States' policies and programmes taking into account cultural traditions and national dietary habits and practices" p.33 **WHO Global strategy on diet, physical activity and health (2004), WHA57.17**	*disease too. These findings point to an especially strong causal relationship for the consumption of sugar-sweetened beverages (SSBs)." P.S100* **South African Food-based dietary guidelines (FBDG-2013)** *""…and decrease use and intakes of sweetened (sugary) foods and drinks." p.43* **Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-17** *"Unhealthy food and beverage items sold by vendors and tuck shops to learners have a negative impact on child nutrition and thus related illnesses." p.4* **National School Nutrition Programme Guidelines for tuck shop operators (2014)** *"Selling sugar laden fizzy drinks. These should be replaced with water, milk or juice." p.13* **NSPN Guidelines for Tuck Shop Operators (2014)** *Caterers that provide meals to any workplace should be willing and committed to adopting healthy meal preparation methods, reduce fat, salt and sugar in the meals and beverages."* **National Guide for healthy meal provisioning in the workplace**

Structural determinants of health			
• The influence on the food chain of wider economic forces such as globalisation, industrialisation, urbanisation and trade are recognised in the early identification of the problem of NCDs in relation to global diets (Food and Agriculture Organization, 2004). In time, these forces are seen as drivers in the production and consumption of processed foods high in fats, salt and refined sugar and that these types of foods contribute to weight gain (United Nations General Assembly, 2011).	• The language used in the Western Cape Healthy Eating guide talks of "sweet sticky foods" (Western Cape Government Education, 2020). The use of visual descriptions when interpreting policy proposals around sugar consumption appears to be characteristic in the local policy documents.	*"Furthermore, the growing globalization and industrialization of the food chain is leading to increased consumption of processed food, resulting in an upsurge in saturated fat, trans-fats, salt and refined sugars in the diet. p.7* UNGA, Sixty-Sixth session, Prevention and control of NCDs – Report of the Secretary General A/66/83 (2011)	*"Most South Africans consume diets that are low in fruits and vegetables and high in fat- and sugar-containing foods; and…p.5.*
• The epidemiological shift of overweight and obesity as a problem also affecting low- and middle-income countries, women – especially those with lower incomes – was recognised within a report to the Secretary General following the High-level meeting of 2011 (United Nations General Assembly, 2011)	• The FBDG-2013 identifies overweight and obesity as a problem in urban areas, women and children (Vorster HH, 2013). • The NSNP Guidelines for tuck shop operators produced by the Basic Education Department of South Africa also identifies "poverty-stricken urban areas, where most ethnic communities" live as a pocket of vulnerability for driving obesity (South Africa Department of Basic Education, 2014b). • The high prevalence of obesity among urban women was also observed in the South African strategy on the prevention and control of obesity (2015–2020), which states that "urbanization and an increase in the sales of sugar-sweetened beverages (SSBs) and high-caloric energy-dense foods" are responsible (South Africa Department of Health, 2016b).		*"Much like many other countries across the world, South Africa has been experiencing a rapid expansion in the prevalence of overweight and obesity. A recent survey reported a major increase in the level of overweight and obesity in adolescents. The problem is especially acute in females and urban residents." p.S102* South African Food-based dietary guidelines (FBDG-2013) *"National figures show that overweight and obesity has increased in South Africa. This is supported by local-level surveys undertaken in the Western Cape. The SANHANES reports that South Africa shows classic signs of a nutrition transition, with the highest fat and sugar scores found in the youngest age groups, in formal urban areas in those provinces that were largely urbanised." p.14*

			Western Cape Government Household Food and Nutrition Security Strategic Framework (2016)
• Processed foods become a focal point for combatting unhealthy diets.	• The South African Strategic plan 2013-17 explicitly targeted processed foods with high levels of salt, while mention was made of sugar in relation to a proposal for taxing unhealthy foods (South Africa Department of Health, 2012). • The FBDG-2013 states that sugar combines with nutrient poor foods high in salt and oil, which together they contribute significantly to disability and death in South Africa (Vorster HH, 2013). Here energy-dense foods are closely associated with processed being unhealthy	*"Furthermore, the growing globalization and industrialization of the food chain is leading to increased consumption of processed food, resulting in an upsurge in saturated fat, trans-fats, salt and refined sugars in the diet. P.7* UNGA, Sixty-Sixth session, Prevention and control of NCDs – Report of the Secretary General A/66/83 (2011)	*"micronutrient-poor, oily and salty take-away convenience foods and beverages."* FBDG-2013
• Marketing of foodstuffs and non-alcoholic beverages, governments are responsible to put structures in place	• Instruction is given for stakeholders involved with tuck shops in South Africa that no marketing of unhealthy foods is permitted.	*As stated in the document, member states should: "put in place, as appropriate, and with all relevant stakeholders, a framework and/or mechanisms for promoting the responsible marketing of foods and non-alcoholic beverages to children, in order to reduce the impact of foods high in saturated fats, trans-fatty acids, free sugars, or salt" (World Health Organization, 2008).* WHO, 2008	*"There should be no marketing of any unhealthy foods at schools; thereby not permitting school sign boards sponsored by manufacturers of unhealthy foods and beverages" p.8.* NSNP Guidelines for tuckshop operators
Dental caries			
• The Africa Region strategy on Oral health (1999–2008) makes recommendation to 'prudently' use	• Caution around sugar is first introduced for the South African FBDB in 2003 for the reason of concern around dental caries and	*Such policy or programme may include:*	*"Noting: -* *Significant mortality and burden of disease is attributable to cardiovascular diseases,*

sugar. The subsequent strategy (2016–2025) emphasises the relationship with NCDs.	is highlighted in the FBDG-2013 also with specific proposals.	*participation in health promotion and education programmes to control tobacco and alcohol use and promote correct nutritional practices, including prudent use of sugar."* **WHO Africa Region Oral health strategies (1999–2008)** *"Recognize that renal, oral and eye diseases pose a major health burden for many countries and that these diseases share common risk factors and can benefit from common responses to non-communicable diseases;" p.3* **Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Disease (A/RES/66/2)** *" In the African Region, oral diseases are among the most common noncommunicable diseases (NCDs) and may affect people throughout their lifetime, causing pain, disfigurement, social isolation, distress and even death. They share risk factors with the leading NCDs, including tobacco use, harmful alcohol consumption and unhealthy diets high in sugar, all of which are increasing in the Region." P.1*	*diabetes, cancers, chronic respiratory diseases, mental disorders, oral and eye diseases, muscular skeletal and other non-communicable conditions."* **South African Declaration on the Prevention and Control on NCDs (2011)** *"Here, we focus specifically on the prevention of dental caries. Key recommendations include:* • *Avoiding the frequent consumption of juice or sugar containing beverages.* • *Avoiding cariogenic snacks.* • *Limiting cariogenic food to mealtimes.* • *Restricting sugar-containing snacks that remain in the mouth for long periods or are eaten frequently, such as sweets.* **South African Food-based Dietary Guidelines (FBDG-2013)**

		Regional Oral Health 2016–2025: Addressing Oral Diseases as part of Nonc-communicable diseases	
Sugar as a contributing factor for overweight and obesity			
• Unhealthy diets are linked to overweight and obesity in children	• Obesity is highlighted as a problem in several of the South African strategic documents, where the impact on urban residents, women, children and adolescents is highlighted.valence of obesity among children challenge in South Africa recognised in the policy documents	*"Recognizing that unhealthy diets are associated with overweight and obesity and that children should maintain a healthy weight and consume foods that are low in saturated fat, trans-fatty acids, free sugars, or salt in order to reduce future risk of noncommunicable diseases;" p.24* WHO Marketing of food and non-alcoholic beverages to children, WHA63.14 (2010) *"Low- and middle-income countries have higher rates of childhood obesity than high-income countries, and the highest smoking rate among men is found in lower-middle-income countries" p.6* UNGA, Sixty-Sixth session, Prevention and control of NCDs – Report of the Secretary General A/66/83 (2011)	*"There is also an increased prevalence of obesity an established risk factor for NCDs" p.S19* *"Much like many other countries across the world, South Africa has been experiencing a rapid expansion in the prevalence of overweight and obesity. A recent survey reported a major increase in the level of overweight and obesity in adolescents. The problem is especially acute in females and urban residents."p.S102* –South African Food-based dietary guidelines (FBDG-2013) *"The prevalence of overweight and obesity in South Africa has risen alarmingly while the problem of under nutrition still exists (Faber and Wenhold, 2006).. A study by Mchiza 20102 confirmed this; "Obesity is fast becoming a time- bomb in South Africa, especially in poverty-stricken urban areas, where most ethnic communities associate the condition with beauty and wellness, rather than a health risk". p..4* National School Nutrition Programme Guidelines for tuck shop operators (2014)
Policy actions			

• Governments are encouraged to implement polices to support healthy diets and restrict availability of unhealthy options in schools and other settings. A list of available policy options for the prevention and control of NCDs are presented in the WHO Global strategy (2004) according to the role and responsibility of governments (World Health Organization, 2004).	• South Africa national government policies reflect an awareness of the 2004 WHO Global strategy precepts which they appear to voluntarily comply with.	*An integrated approach to the causes of unhealthy diet and decreasing levels of physical activity would contribute to reducing the future burden of noncommunicable diseases." p.36* **WHO Global strategy on diet, physical activity and health (2004), WHA57.17** *"establish and implement food-based dietary guidelines and support composition of healthier foods by limiting sugars"* **2008–2013 WHO Action Plan** (World Health Organization, 2008).	*"policy measures to increase intake of fruits and vegetables, and reduce intake of saturated fats, sugar and salt, as recommended in the South African food dietary guidelines, to accompany strategies to increase vegetable and fruit production"* **South African National Planning Commission** (National Planning Commission, 2010).
• Global policy documents in this review repeatedly and explicitly directed national governments to introduce multisectoral interventions aimed at reducing the common, modifiable risk factors for NCDs, including unhealthy diets characterised by a high proportion of trans-fats, salt and sugar (World Health Organization, 2008; United Nations General Assembly, 2012b)	The concept of a multisectoral approach is presented in South Africa's strategic documents concerned with reducing NCDs and their risk factors. A key policy proposal issued to the agriculture and agro-processing sector in South Africa's National Development Plan of 2010 highlighting the need to reduce sugar intake was that they introduce:	*"Recognize that the incidence and impacts of non-communicable diseases can be largely prevented or reduced with an approach that incorporates evidence-based, affordable, cost-effective, population-wide and multisectoral interventions;" p.6* – **UNGA, Political Declaration adopted by the High-level Meeting on the Prevention and Control of NCDs, A/RES/66/** *"national policies and supranational practices by sectors beyond the area of health have a major bearing on NCDs and their risk factors" (United Nations General Assembly, 2012a).*	*A shift towards a "whole of government" and a "whole of society" approach is imperative in dealing with Non-communicable Diseases given Non-communicable Diseases are caused or strongly influenced by behavioural, environmental, social and economic factors. p.1* *Developing multi-sectoral public policies that create sustainable health promoting environments that enable individuals, families and communities to make healthy choices and lead healthy lives; p.4* **South African Declaration on the Prevention and Control of NCDs**

		"Develop guidelines, recommendations or policy measures that engage different relevant sectors, such as food producers and processors, and other relevant commercial operators, as well as consumers, to: Reduce the content of free and added sugars in food and non-alcoholic beverages" (World Health Organization, 2013b).	
• The policy options identified in the WHO Global strategy (2004) are subsequently organised in terms of their cost-effectiveness. Unlike "reducing salt intake", limiting sugar intake is not explicitly listed among the 9 time-bound targets or in the table of cost-effective interventions identified in the WHO Global Action Plan (2013–2020), the "road-map" member states are suggested to follow. Although, governments are advised to develop guidelines, recommendations or policy measures that encourage the reduction of sugar intake in foods and non-alcoholic beverages (World Health Organization, 2013b).	• The concept of 'best-buys' – a package of population-wide interventions that are cost-effective –applied at the national level in the South African Plan for Prevention and Control of NCDs 2013-17 (South Africa Department of Health, 2012).	*"Best buys to reduce major risk factors for non-communicable diseases include:* *Reducing salt and sugar content in packaged and prepared foods and drinks" p. 12* UNGA, Sixty-Sixth session, Prevention and control of NCDs – Report of the Secretary General A/66/83	*"Support for addressing the four common risk factors is demonstrated in "Best Buy" interventions of risk factor reduction and treatment as they relate to cost of implementation, health impact and cost effectiveness. Interventions related to reducing tobacco use and the harmful use of alcohol and improving diet and increasing physical activity are low cost, have large to modest health impact and are very cost effective", 26* *"* *"Fiscal measures (e.g. taxes): Cost in Rand per Head (2010) = R0,20", p37.* South African Plan for Prevention and Control of NCDs 2013-17 *"The primary aim of the assessment was to develop an economic model of the impact of interventions to tackle overweight/obesity and*

			associated risk factors (particularly unhealthy diets and the lack of physical activity) at the population level. Actions assessed were: reduction in salt intake, food taxes on unhealthy food, subsidies for healthy foods and physician counselling. The model's cost-effectiveness, health impacts and cost of implementation are shown in Table 1." Strategy for the Prevention and Control of Obesity in South Africa (2015–2020)
• The reduction of sugar through effective taxing of SSBs is introduced as a best-buy in the Updated Appendix 3 to the Global Action Plan (2013-2020) endorsed in 2017 at the WHA (World Health Organization, 2017c). •	• The FBDG-2013 furthermore stresses that "sugar, especially that in SSBs, is strongly implicated in obesity" and that its reduction can help prevent NCDs such as type 2 diabetes, cardiovascular disease and cancers of breast and colon (Vorster HH, 2013). •	"Reduce sugar consumption through effective taxation on sugar-sweetened beverages" WHO, Updated Global Action Plan (2013–2020) WHA 70, 2017	*"one major component of weight gain is excess sugar consumption"* Strategy for the Prevention and Control of Obesity in South Africa (2015–2020)
Private sector interference			
• In the UNIATF and Africa region WHO documents private sector interferences is recognised as a challenge in the second half of this review.	• The Western Cape Education publishes a healthy eating guide in conjunction Woolworths a major retailer. Points to a potentially grey area of where retailers can have influence in developing messaging and also through financial support creating a system of co-dependence with private sector and government.	*"Private sector interference that blocks Governments in their efforts to implement certain very cost-effective and affordable measures to attain target 3.4 of the Sustainable Development Goals (for example, increasing excise taxes and prices on tobacco products, alcoholic beverages and sugar-sweetened beverages)"* ***UN ECOSOC, 2017, p.*** *(United Nations Economic and Social Council, 2017)*	"In presenting this Healthy Food Guide, the Woolworths Making The Difference team and the Western Cape Education Department is delighted to take our participation in South African schools' nutrition and promotion of healthy lifestyles to a new level."p3. **Western Cape Education, Healthy Eating Guide**

		One obstacle at country level is the lack of capacity to effectively address public health goals when they are in conflict with private sector interests, in order to effectively leverage the roles and contributions of the diverse range of stakeholders in combatting NCDs. Montevideo Roadmap 2018–2030 on NCDs as a Sustainable Development Priority, WHA71.2 Annex, 2018, p.43 ***WHO, 2018 (World Health Organization, 2018e)***	