

The slow violence of malnutrition

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“A simple vote, without food, shelter and health care is to use first generation rights as a smokescreen to obscure the deep underlying forces which dehumanise people. It is to create an appearance of equality and justice, while by implication socio-economic inequality is entrenched. We do not want freedom without bread, nor do we want bread without freedom. We must provide for all the fundamental rights and freedoms associated with a democratic society.”

Nelson Mandela¹

Over the past two decades, South Africa has adopted a broad array of food and nutrition policies to improve the food and nutrition security of children. However, most indicators show disappointing results. While self-reported hunger of children has declined, stunting (an indicator of chronic undernutrition) remains exceptionally high for an upper middle-income country.² This has been accompanied by an increase in child and adolescent overweight and obesity, which is driving a growing burden of diet-related non-communicable diseases (NCDs).

With one of the largest economies and higher stunting levels than some of its poorer African neighbours, South Africa’s child food and nutrition insecurity is linked to the grotesque inequities that characterise the country and which must be addressed with urgency. They reflect a slow, hidden and cumulative violence against South Africa’s children that is in conflict with the country’s Bill of Rights and Constitution and is a violation of their rights.

The term “slow violence” was initially used to describe the gradual, often invisible, but ultimately devastating impact of climate change and deforestation on the environment and poor communities.³ Reflecting on the impact of COVID-19 in the context of persistent hunger in South Africa’s cities, Gareth Haysom challenged society to recognise the “slow violence” of hunger and food insecurity that is also often “experienced in private, incremental and accretive ways – that are often invisible”⁴ (see Box 1).

In this issue of the *South African Child Gauge*, we use the concept of slow violence to illustrate how food and nutrition insecurity during childhood is a silent threat to human development that casts a long shadow across the life course and contributes towards the intergenerational transfer of poverty, malnutrition and ill-health.

The influential 2020 Global Nutrition Report (GNR) also recognises the importance of intervening early in a child’s life course to prevent the double burden of undernutrition and overweight/obesity. The GNR shows how food and nutrition insecurity hampers physiological and social development, exerts additional health costs, prevents children from achieving their full potential and perpetuates an intergenerational cycle of poverty.⁵ It also describes how the double burden of malnutrition contributes to diet-related non-communicable diseases (NCDs) such as diabetes, cardiovascular diseases and certain cancers, and calls for double-duty actions to reduce both undernutrition and overweight.

Drawing on national and international sources of data, the GNR reports that South Africa is on course to meet global nutrition targets, by 2025, for wasting (reduce and maintain childhood wasting to less than 5%) and overweight (no increase in childhood overweight) amongst children under-five. No progress has been made with under-five stunting, low birth weight, adult obesity and adult diabetes, and limited progress with the anaemia prevalence of women of

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reproductive age. The 2016 South African Demographic and Health Survey (SADHS) suggests that encouraging progress has been made with increasing exclusive breastfeeding in the first six months. However, at 32%, this is way below the target to meet the Global Nutrition 2025 target of increasing the rate of exclusive breastfeeding in the first six months up to at least 50%. Of increasing concern is that South Africa, like several other countries is experiencing an upward trend in overweight and obesity.⁶

Table 1 provides an overview of national data collected between 1999 and 2016. The trend of several indicators is disheartening. South Africa's stunting rate has remained stubbornly high above the 20% mark, unlike several other low- and middle-income countries such as Rwanda, which successfully decreased its stunting level from 44% in 2010 to 38% in 2015, and far short of the successes achieved in Brazil and Peru.⁵

The adolescent and adult nutrition profile (Table 2) mirrors the poor child health and nutrition profile. Preconception

nutrition status and nutrition during pregnancy impact future child health and nutrition and fuels the intergenerational malnutrition cycle. While teenage pregnancy is low, most women have their first child before age 22,⁶ and 30.7% of pregnant women are HIV positive⁷. From the data presented in Table 1, it is evident that there is a gender-bias of a worse trajectory for the female child. These indicators continue to deteriorate into adulthood with adult women in South Africa more overweight and obese than their male counterparts.

The position of South Africa's double burden of malnutrition relative to global trends can be seen in Figure 1 and confirms the country's poor performance relative to other middle-income countries.

With less than five years to achieve the United Nations Global Nutrition Targets, South Africa has a mixed report card on child nutrition. Despite South Africa's middle-income status and the per capita spend on health, these indicators are at best stagnant with many worsening, not unexpectedly given the level of inequality reflected in high

Table 1: Indicators of children's nutrition status, 1998 – 2016

		NFCS 1999 1 – 9 years	SADHS 2003 < 5 years	NFCS-FB 2005 1 – 9 years	SANHANES 2012 < 5 years	SADHS 2016 < 5 years
●	Wasting	3.7%	5.2%	4.5%	2.9%	2.5%
●	Underweight	10.3%	11.5%	9.3%	5.8%	6%
●	Stunting	25.5% (1-3 years)	27.4%	23.4% (1-3 years)	26.5% (1-3 years)	27% (<5 years)
●	Overweight	12.4%	Not reported	10.6%	16.5% (girls) 11.5% (boys)	13.3%
●	Obesity	6.6%	Not reported	4.8%	7.1% (girls) 4.7% (boys)	Not reported
●	Vitamin A deficiency	Not reported	Not reported	64%	43.6%	Not reported
●	Zinc deficiency	Not reported	Not reported	45%	Not reported	Not reported
●	Iron deficiency and iron deficiency anaemia	Not reported	Not reported	20%	10%	Not reported
●	Iodine deficiency	Not reported	Not reported	15%	Not reported	Not reported

● No progress ● Progress made ● Target achieved

Sources: Labadarios D, ed. 2000. National Food Consumption Survey (NFCS): Children aged 1-9 years, South Africa, 1999. Directorate of Nutrition, DOH. Stellenbosch, University of Stellenbosch.

Department of Health, Medical Research Council, OrcMacro. (2007). *South Africa Demographic and Health Survey 2003*.

Kruger HS, Swart R, Labadarios D, Dannhauser A, Nel JH 2007. Anthropometric status. In: Labadarios D, ed. National Food Consumption Survey-Fortification Baseline (NFCS-FB): South Africa, 2005. Directorate Nutrition, DOH. Stellenbosch, University of Stellenbosch.

Shisana O, Labadarios D, Rehle T, Simbayi L, Zuma K, Dhansay A, Reddy P, Parker W, Hoosain E, Naidoo P & Hongoro C (2013) *South African National Health and Nutrition Examination Survey (SANHANES-1)*. Cape Town: HSRC Press.

Department of Health, Statistics South Africa, Medical Research Council & ICF (2017) *South African Demographic Health Survey 2016. Key Indicator Report*. Pretoria: DOH, Stats SA, MRC & ICF

Note: N/A: not available.

Table 2. Adolescent and adult nutrition indicators, 1998 – 2016

	SADHS 1998	SADHS 2003	SADHS 2016
Underweight	15 – 19 years 28.0% male 12.0% female	15 – 19 years 29.0% male 12.0 female	15 – 19 years 20.7% male 6.7% female
Overweight	15 – 19 years 4.8% male 17.6% female	15 – 19 years 8.2% male 16.2% female	15 – 19 years 6.1% male 16.7% female
Obesity	15 – 19 years 0.02% male 0.06% female	15 – 19 years 0.4% male 7.5% female	15 – 19 years 2.5% male 10.9% female
Anaemia <13g/dl males <12g/dl females	Not reported	Not reported	15 – 19 years 17.2% male 34.0% female
Hypertension ≥140/≥90mmHg	15 – 19 years 7% male 5% female	Not reported	15 – 24 years 20% male 17% female
Diabetes ¹	Not reported	Not reported	15 – 19 years 1% male 2% female

Sources: Department of Health, 1998. *South Africa Demographic and Health Survey 1998*.

Department of Health, Medical Research Council, OrcMacro. (2007). *South Africa Demographic and Health Survey 2003*.

Department of Health, Statistics South Africa, Medical Research Council & ICF (2017) *South African Demographic Health Survey 2016. Key Indicator Report*. Pretoria: DOH, Stats SA, MRC & ICF.

Notes: N/A: not available. While diabetes is not of public health significance amongst youth, prevalence increases dramatically with age and BMI, with women most at risk.

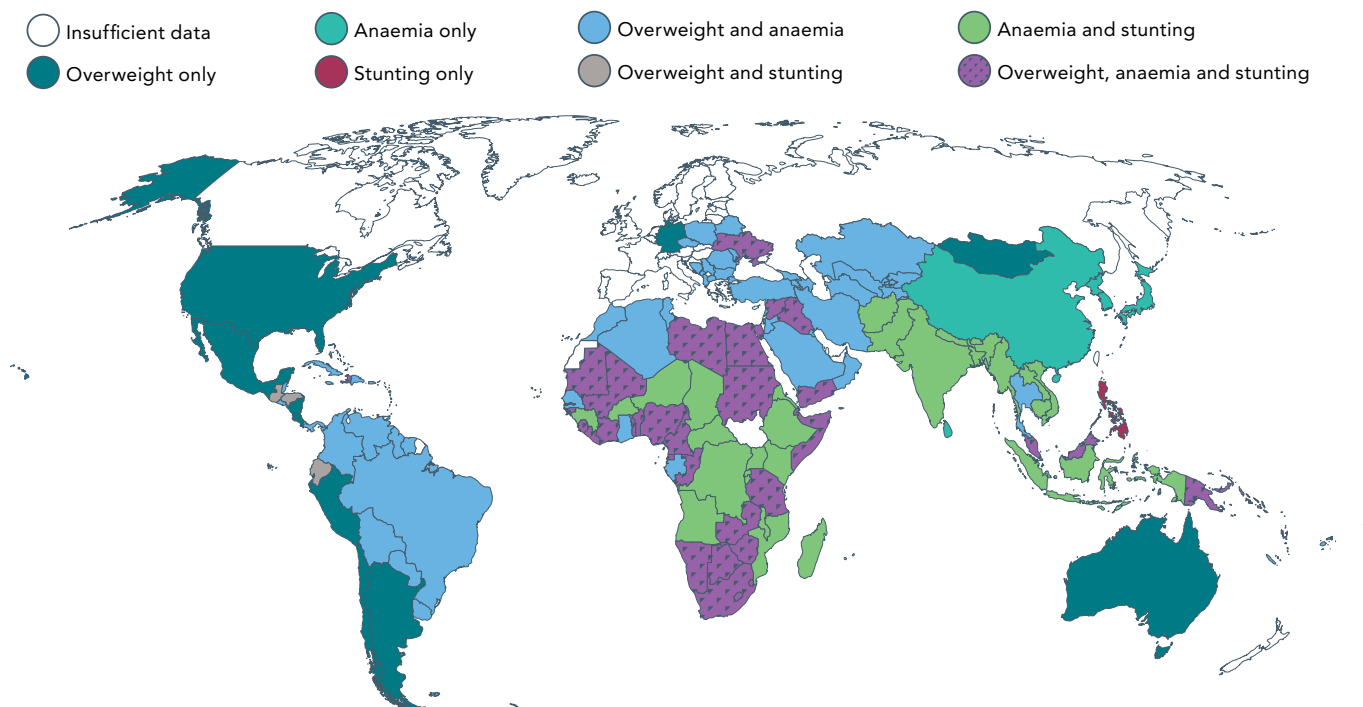
Gini coefficient for South Africa at 0.65 points in 2015.⁸ Furthermore, the COVID-19 pandemic and economic recession are likely to have an unprecedented impact on food and nutrition security globally and in South Africa. A preliminary assessment by the UN Food and Agricultural Organization (FAO) suggests the pandemic may add between 83 and 132 million people globally to the total number of undernourished in 2020 as a result of loss of income and livelihoods.⁹ The John Hopkins University Bloomberg School of Public Health projected an additional 1.2 million young child deaths in 2020 due to the disruption of essential maternal and child health services, coupled with growing food insecurity¹⁰.

An effective response to this situation would have substantial social and economic returns. The immediate benefits of improving the food security, dietary diversity and nutrient consumption of children are known.¹¹ The long-term societal benefits are more difficult to measure accurately but are of equal importance. Recognising this, international efforts are underway to collect better data in order to more clearly demonstrate the impact of nutrition focused and nutrition sensitive policy.¹² Nonetheless, even with insufficient data,

the Global Nutrition Report of 2014 estimates a return of R16 for every R1 invested in nutrition interventions for all age groups.¹³ The benefits of interventions focusing on children are likely to exceed this, and follow from strengthened immune systems, improved physical and cognitive ability, better performance in school, and ultimately in improved health and economic capacity in adult life.

This chapter introduces the concepts of food and nutrition security and describes the life-course approach that underpins the *Child Gauge*, locating this within the food system and reflecting on the impact of COVID-19. It provides an overview of the food security and nutrition profile of South Africa's children outlining the double burden of under- and overnutrition, and motivates for early and sustained intervention across the life course in order to disrupt the intergenerational transmission of malnutrition, poverty and ill health. It then draws on the concepts of food and nutrition security to identify the determinants of malnutrition within the broader food system, highlighting the need for both nutrition-specific and sensitive interventions. Finally, the chapter discusses children's rights to food and nutrition, and reflects on opportunities to strengthen policy and programming.

Figure 1: Map of childhood stunting and anaemia and overweight in adult women, 2017 and 2018



Source: UNICEF/WHO/World Bank Group. Joint child malnutrition estimates. NCD Risk Factor Collaboration. WHO Global Health Observatory. Notes: Stunting in children aged under 5 years $\geq 20\%$; anaemia in women of reproductive age $\geq 20\%$; overweight (body mass index ≥ 25) in adult women aged ≥ 18 years $\geq 20\%$. Based on data for 141 countries.

How does the double burden of malnutrition change across the life course?

Although adequate nutrition is important throughout childhood, the first 1,000 days (from conception until two years of age) are especially important for the first of these burdens: undernutrition. Human development is most rapid during this period of a child’s life course, especially the development of the immune system and cognitive ability.

Maternal nutrition

The many pregnant women at risk of food insecurity in South Africa are therefore the first manifestation of slow violence: In 2012/13, 17% of mothers reported that they had experienced a depletion of food in the 12 months prior to visiting an antenatal clinic¹⁴ and there is increasing evidence linking food insecurity and postnatal depression,¹⁵ which compromises the ability of mothers to feed and care for their children. Pregnancy in adolescence and HIV-infection put the pregnant mother and her unborn child at additional risk of poor birth and health outcomes.

While South Africa does not have national level data of micronutrient status of pregnant women, one in three women of child-bearing age experience anaemia. Micronutrient deficiencies are likely to be even higher among pregnant women. As first proposed in the Barker hypothesis, adverse

nutrition in early life (including during the antenatal period as measured by low birth weight) increases the risk of obesity, diabetes, insulin insensitivity, hypertension, high cholesterol and complications that include coronary heart disease and stroke.¹⁶

In developing countries, the progression to obesity and associated morbidity appears to be dependent on the interaction between birth weight and subsequent growth during critical, developmental windows. This has been described as a “thrifty phenotype”. Researchers in the Birth-to-Ten study, a prospective cohort study of the determinants of growth, development and health in children born in the metropolitan area of Soweto and Johannesburg between April and June 1990, found that children with low birth weight were more likely to exhibit rapid weight gain culminating in increased obesity, raised blood pressure and glucose intolerance.¹⁷

Low birth weight

Low birth weight (below 2.5kg) is the first challenge to be confronted by caregivers and has been estimated to affect 15% of births nationally.⁶ This includes children born before 37 weeks gestation (preterm) and those who are small for gestational age. Low birth weight is an important predictor of malnutrition in childhood. Infant mortality risk is highest in the

first month of life and South Africa continues to struggle with a stubbornly high neonatal mortality rate of 12 deaths per 1,000 live births. Amongst the causes of neonatal mortality are prematurity, asphyxia and sepsis.¹⁸ The former being a poor birth outcome related to maternal health and nutrition status and the latter to the infant's immune status – which underpins the importance of immediate and early initiation of breastfeeding within one hour of birth.

Infant and young child feeding

Exclusive breastfeeding during the first six months following birth is a key protective factor for child survival, cognitive development and protection against NCDs in the adult years.¹⁹ However, South African surveys have repeatedly shown a low prevalence of exclusive breastfeeding, with the most recent SADHS reporting that just 32% of infants below the age of six months were exclusively breastfed in 2016.⁶

Many women stop exclusive breastfeeding prematurely due to food insecurity, a hostile home environment, and inadequate support from their workplace and the health care system.^{20, 21} Poor feeding practices contribute to particularly high levels of stunting (32%) during the first six months of life.

These challenges continue into the second year of life, with only 23% of infants aged 6 – 24 months reported to have consumed a minimum acceptable diet (a composite measure of dietary diversity and food frequency). Inappropriate complementary feeding practices are associated with overweight and obesity in childhood and later in puberty; and formula feeding has been identified as a possible cause of subsequent overweight.¹⁹

Wasting

South Africa's low prevalence of wasting (2.5%) is not of public health significance and shows signs of improving, yet 48% of hospital deaths are associated with moderate or severe acute malnutrition (SAM).²² There are concerns that COVID-19 and the associated lockdown and recession has intensified child hunger and malnutrition – so there is an urgent need to strengthen growth monitoring systems to ensure the early identification and treatment of infants and young children with SAM (see case 15).

Stunting

Levels of chronic undernutrition have remained high since 1993 when the Project on Statistics on Development and Living Standards (PSLDS) reported a stunting prevalence of 30.2% of children under 5 years of age, with the most recent estimate of the 2016 SADHS reporting a prevalence of 27%.⁶ When the confidence intervals of these and other studies are considered,

it appears that there has been no progress from 1993 to 2016. Stunting can have a profound impact on long term health and development and is associated with impaired health, educational and economic performance in later life, as well as intergenerational transfers with women who had been stunted themselves giving birth to low birthweight children.²³ There are also concerns over long-term consequences for the development of the immune system.²⁴

Hunger

Given the persistence of stunting, it seems contradictory that children living in households reporting child hunger have fallen from 30% in 2002 to 11% in 2018. Yet this is a highly subjective measure reported at household level and does not provide any indication of whether children are consuming a diet that is sufficiently diverse and dense in nutrients to support healthy growth and development.

Poverty, unemployment and hunger rose dramatically under hard COVID-19 related lockdown, with 47% of households running out of money to buy food in May/June 2020, while child and adult hunger increased to 15% and 22%.²⁵ By July/August, following the introduction of the caregiver and COVID-19 relief grants, this had declined to 37%. Yet levels of hunger and food insecurity remain significantly higher than pre-COVID-19 levels.²⁶ Food prices rose dramatically – before, during and post-lockdown – with a basic Household Food Basket in Pietermaritzburg costing R3,554.64 in November 2020, an increase of 14.4% from R3,106.42 in November 2019.²⁷ This was accompanied by the loss of COVID-19 relief grants at the end of November, cutting deep just ahead of Christmas and the closure of schools, with women testifying how:

“Children eat the same food every day. Starch every day. Starch every day. Starch every day. People are not okay. It is not healthy to eat starch every day. We do want to eat right but we don't have a choice. We can only buy the basic foods now. We buy the same things over and over again. We have no choice; we have to survive.”

Du Noon, Cape Town, November 2020

Maternal buffering

The extent and impact of maternal buffering (when mothers act as “shock absorbers”, deliberately limiting their own consumption to ensure that children have enough to eat) emerged as a coping strategy during the COVID-19 lockdown.²⁵ Prior to this, small sample surveys found that over three-quarters of mothers adopted this strategy over a five-day recall period.²⁸ It is also possible that mothers may be eating inexpensive, energy dense food as a coping strategy during episodes of poverty, as well as feeding their children such foods so that they feel sated, increasing both of their risks of becoming overweight or obese.

Micronutrient deficiencies

Hidden hunger or micronutrient deficiencies compromise children’s immune systems and cognitive development and increase their risk of morbidity and mortality. Public health strategies to address micronutrient deficiencies include supplementation, food fortification and food diversification. South Africa introduced salt iodisation in 1998 to virtually eliminate iodine deficiency; fortification of maize meal, bread and bread flour (in 2003) to address vitamin A and iron deficiency; routine vitamin A supplementation, and the use of zinc supplements to treat diarrhoea.

The prevalence of vitamin A deficiency (VAD) among South African children under the age of five years has reportedly declined from 64% of children 1 – 6 years in 1999²⁹ to 43.6% of children under five in 2013³⁰. Nonetheless, VAD is still severe according to the WHO criteria, contributing to up to 23% of childhood mortality, despite a supplementation programme introduced in 2002 and a wheat flour and maize meal fortification programme introduced in 2003.

Other forms of micronutrient deficiency are also of concern. The 2005 National Food Fortification Baseline Survey found that 44% of children aged 1 – 9 years had inadequate zinc status and were therefore at risk of zinc deficiency, 25% an iron deficiency and 15% an iodine deficiency.³⁰ Given the increased cost of the food basket and the negative impact of the COVID-19 pandemic and subsequent economic recession, it is expected that the micronutrient quality of children’s diets will further deteriorate.

Multiple malnutrition

In addition to hidden hunger, multiple malnutrition has been identified as an emerging trend in many countries.¹³ This refers to overlapping burdens of stunting, wasting, and overweight, or a concurrent double burden of malnutrition. At the level of the individual, these burdens can occur concurrently, for

example, stunting and wasting, or stunting and overweight;³¹ and sequentially over the life course, where stunted children may become obese adolescents³². This underpins the call for early and sustained investment into addressing food and nutrition security during the first 1,000 days, the most critical and time-sensitive window of opportunity.

Stunting in childhood predisposes overweight and obesity in adolescence and adulthood. Increased overweight and obesity among adolescents raises concerns about their immediate health and well-being, their increased risk of developing NCDs and the compromised preconception health and nutrition of the next generation of children.

Obesity and stunting are linked and often found in the same household. Wave One of the National Income Dynamics Study (NIDS) undertaken in 2008 found that there is at least one obese adult in 45% of households with a stunted child, and an underweight child in 37% of households with at least one obese adult. Overall, NIDS found that there is both an overweight adult and an undernourished child in one out of every eight South African households.³³

Overweight and obesity

The SADHS 2016 found that 13% of children under-five were overweight or obese. Overnutrition increased with age with a strong gender bias emerging in late teens, where 8.6% of young men and 26.8% of young women were overweight or obese. Prevalence of overweight and obesity among all women has also increased over time, from 56% in 1998 to 68% in 2016, with the highest rates of overweight and obesity (81-82%) in women aged 45 – 60 years.⁶

Adolescent nutrition

A review on adolescent nutrition in South Africa³⁴ reported that girls and urban-dwellers were particularly vulnerable to obesity and that dietary intakes demonstrated a transition towards energy-dense, processed foods high in sugar and fat, but low in essential micronutrients. Food choices were driven by the adoption of obesogenic behaviours in the teenage years, including irregular breakfast consumption and fewer family meals, increased snacking and low levels of physical activity. According to the 2016 SADHS, one-third (34%) of girls and 17.2% of boys 15 years and older were anaemic. One-third of the adolescents ate salty snacks daily, while fruit and vegetable intakes were generally low and decreased from the highest to lowest household wealth categories.⁶

Obesity prevalence is increasing, especially in the adult female population, contributing substantially to the burgeoning burden of NCDs such as hypertension and

diabetes. Amongst females this has a negative impact on pregnancy and birth outcomes, increasing the risk of pre-term deliveries, low birth weight and maternal mortality.³⁵

HIV

South Africa has the largest HIV epidemic and treatment programme in the world. While HIV incidence is declining, adolescent girls and young women aged 15 – 24 are three times more likely to become HIV infected than young men. New HIV infections in young women contribute to one-third of all new HIV infections in adults 15 – 49.³⁶

Intergenerational relationships between older men, a group with high HIV prevalence, and young women are understood to be driving HIV infection among young women and are underpinned by poverty and food insecurity. Young pregnant women also tend to have reduced access to HIV prevention interventions, compromising their health and that of their unborn infants.

While South Africa has made strides in eliminating mother-to-child transmission of HIV, 30.7% of pregnant women are HIV positive⁷ and an estimated 20.5% of infants are HIV-uninfected yet exposed to HIV and antiretroviral drugs.³⁷ This increases their risk of low birth weight and severe infection, raising concerns about the long-term health and

development of one in five young children.³⁸ Greater effort is also needed to ensure that HIV positive children can access treatment as only 51.9% of HIV-infected children were virally suppressed in 2017.³⁶

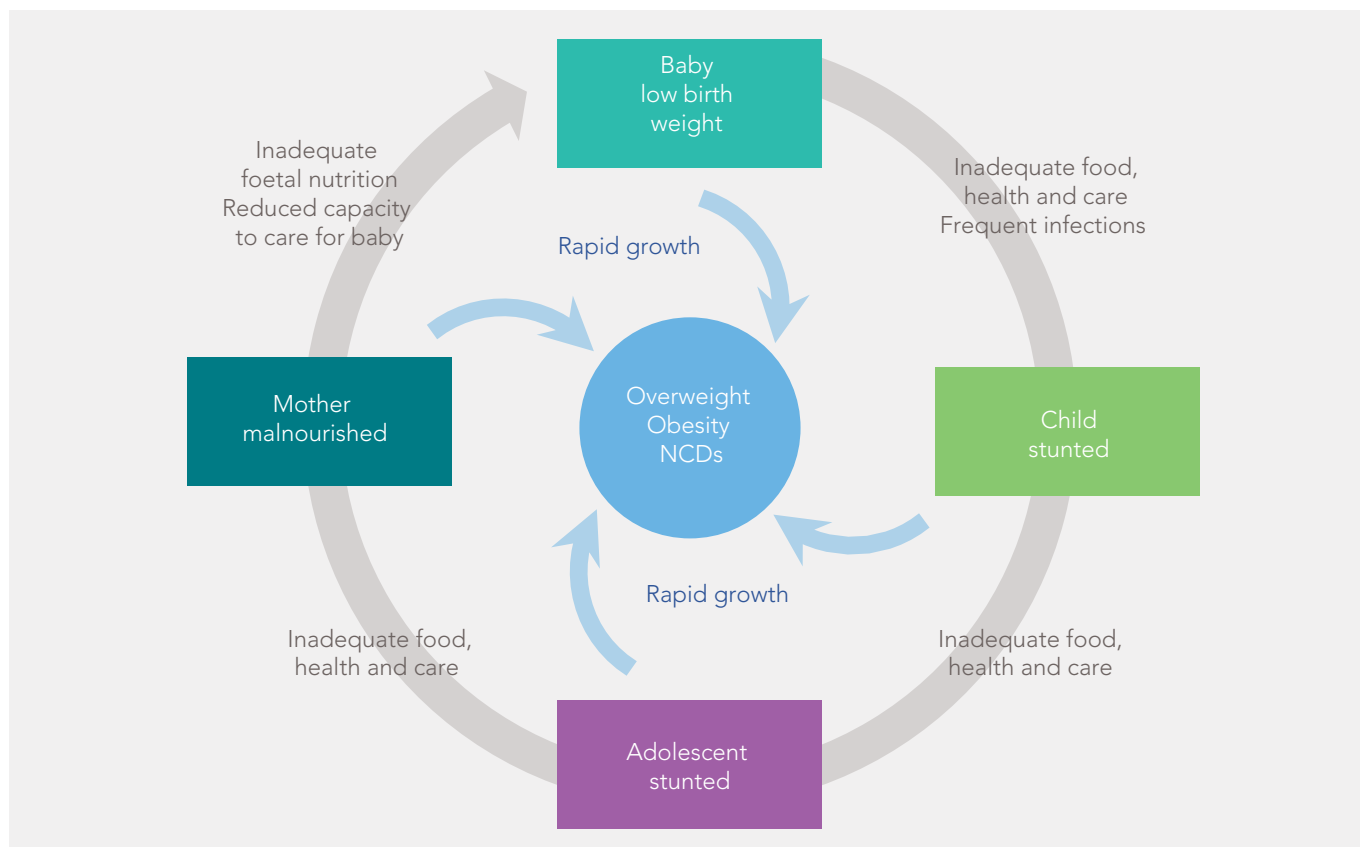
Why is important to adopt a life-course approach?

The above analysis together with a growing body of interdisciplinary research into the developmental origins of health and disease illustrates how exposure to certain environmental influences and physiological stressors during sensitive periods of development (even preconception) can have significant impact on an individual’s short- and long-term health and development.³⁹

The life-course approach to nutrition therefore recognises that there are critical time points in physiological development – from foetus to adulthood – that require specific types of nutrition and support, as any shortcomings and deficiencies during these sensitive periods of development can have irreversible consequences for health and development.

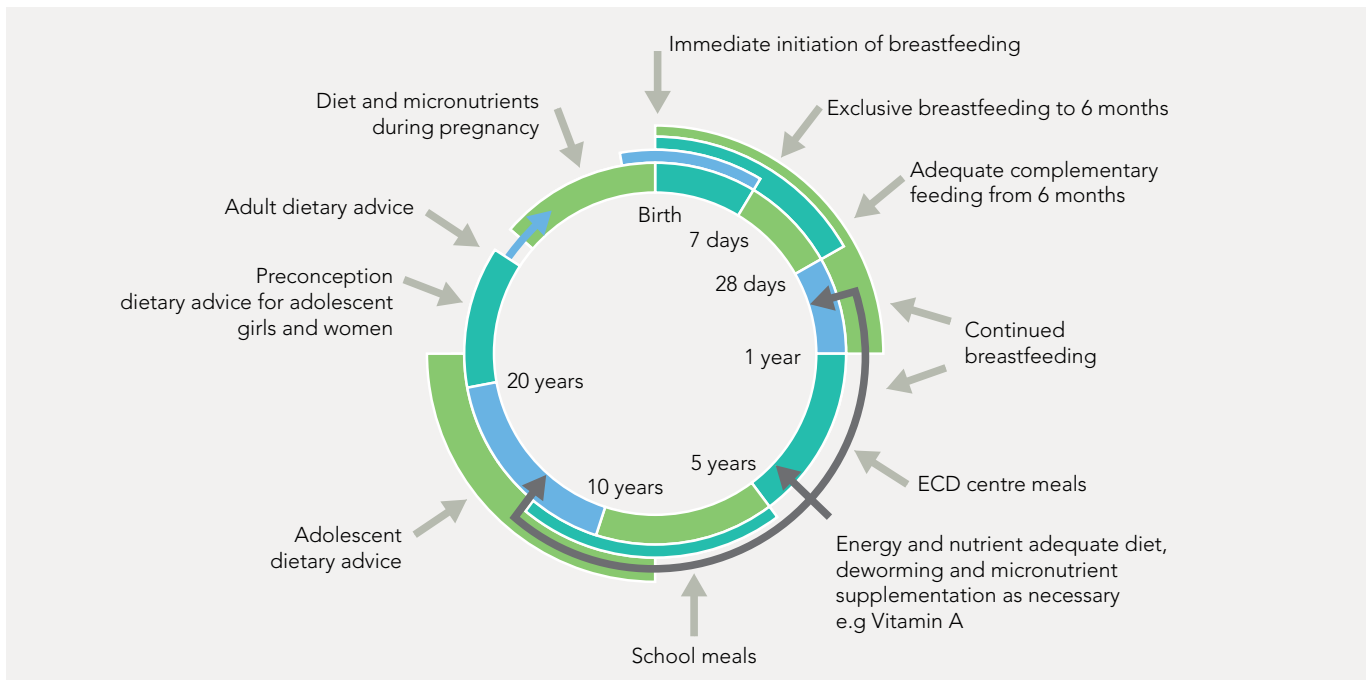
This is particularly important during the first 1,000 days of life – from conception to a child’s second birthday – and again during adolescence as it helps shape adult patterns of behaviour and the health of the next generation of children.

Figure 2. The impact of malnutrition across the life course



Adapted from: Branca F, Piwoz E, Schultink W, Sullivan LM. Nutrition and health in women, children, and adolescent girls *British Medical Journal*, 2015; 351: h4173

Figure 3: Specific interventions to improve nutrition across the life course



Adapted from: Branca F, Piwoz E, Schultink W, Sullivan LM. Nutrition and health in women, children, and adolescent girls *British Medical Journal*, 2015; 351 :h4173

Figure 2 shows that there are different drivers of the double burden of malnutrition at each stage of the child’s life course. Furthermore, food and nutrition insecurity experienced at one stage has consequences for subsequent stages, and ultimately for the health of the next generation of children. The approach is useful when examining the situation of children because demographic, social and historical time places limits on their opportunities and trajectories. The COVID-19 pandemic and the subsequent lockdown are good examples of a period in which the food and nutrition security of children has been placed under particular stress. This included the cessation of school feeding programme in most parts of South Africa, the loss of jobs and livelihoods, and the disruption of the food system, including the prohibition of informal trading during the initial phases of lockdown.

Different responses to avoid or to mitigate food and nutrition risks are therefore required at different stages of development as outlined in Figure 3.

Immediately after birth, nutrition interventions must target breastfeeding, recognising the crucial role that this plays in the first 1,000 days of a child’s life. From the age of six months, emphasis shifts towards ensuring that the transition to solid foods is accompanied by consumption of a balanced diet that avoids excessive consumption of sugar and fat. The adolescent phase is a period in which the risk of overweight and obesity is particularly important. Finally, as the adolescent transitions into adulthood, the focus should

shift to avoiding an intergenerational transfer of diet-related disease to the next generation. Throughout this cycle, effort is needed to address the double burden of malnutrition, to extend beyond nutrition-specific interventions to include other forms of care and support, and to address the drivers of over- and undernutrition.

What are the key drivers of over- and undernutrition?

The changing burden of malnutrition is shaped in fundamental ways by the broader food system. The concepts of food and nutrition security help draw attention to the key drivers of malnutrition and how individual food choices are shaped by broader social and economic forces.

Food security

Although there are many definitions of food security, the most authoritative and widely used is that of FAO’s State of Food Insecurity (SOFI) report:

“Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”⁴⁰

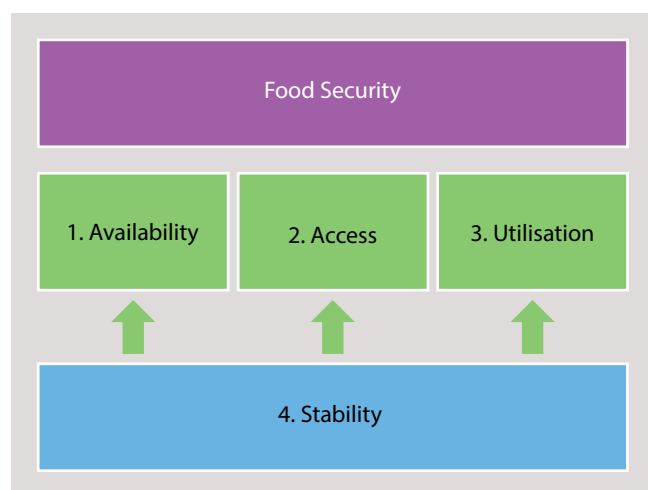
This approach sees food security as possessing four dimensions – availability, accessibility, utilization and stability, as outlined in Box 2.⁴² All four of these dimensions need to be fulfilled simultaneously, yet they are also hierarchical in nature: for example, food availability is necessary but not sufficient for access to food at household level; access is necessary but not sufficient for utilization; and stability is necessary but not sufficient for utilization.⁴²

A shortcoming of this approach is that the nature of the food system is given little attention and the linkages between food and nutrition security, diet, poverty and inequality are not detailed. It also neglects interactions between the different dimensions of food insecurity, and the dynamics and terms under which different actors, especially women and children, are included into the system. As a result, there is a risk that drivers of food insecurity that emanate from outside of the food system might be neglected. These include racism, discrimination and patriarchy.

Nutrition security

Nutrition security is a more inclusive concept that includes dimensions that are not fully considered by the FAO definition. Nutrition security exists when secure access to an appropriately nutritious diet is coupled with a sanitary environment, adequate health services and care, to ensure a healthy and active life for all household members.⁴¹ It also recognises that nurturing care is especially important during childhood, and that the nature of that care changes during the life course. This is especially important during childhood when inadequate and inappropriate diets at critical time-points in physiological development can have irreversible consequences on long-term health and development.

Figure 4: The four dimensions of food security



Adapted from: Food & Agriculture Organization (2008) *An Introduction to the Basic Concepts of Food Security. Food Security Information for Action Practical Guides*. Rome: FAO.

Box 1: The four dimensions of food security

- **Availability:** refers to the physical supply of food at a national or regional level which is determined by food production, stocks and trade.
- **Access:** refers to the ability of households to secure access to sufficient nutritious food either through their own production or by purchasing food. Access is therefore shaped by the local food environment, food prices and household income which can have a profound impact on food security at a household level.
- **Utilisation:** refers to nutritional uptake and describes an individual's ability to consume and make use of sufficient energy and nutrients. It is shaped by health, care and feeding practices, including food preferences, dietary diversity, food safety, access to safe water, sanitation and health care services.
- **Stability:** highlights the need for secure and sustainable access to nutritious food over time despite shocks such as conflict, drought, unemployment or rising food prices.

There are significant differences in the policy recommendations that follow from the food security and nutrition conceptual frameworks. While the food security framework tends to emphasise an economic approach, with a central focus on food as a commodity, and increased production and market efficiencies as the solution, the nutrition framework adopts a biological approach in which the human being is the starting point. Solutions include better health services, improved access to care and the empowerment of women. However, both frameworks have in common the promotion of an interdisciplinary and intersectoral approach to ensuring food and nutrition security and are brought together in recent efforts to balance the focus on food availability and the manner in which food is used.

Agency and sustainability

A draft report released for public debate in 2020 by the High-Level Panel of Experts that advises the Committee on World Food Security proposed the inclusion of two additional dimensions to the FAO's definition: agency and sustainability.

- **Agency** highlights the importance of greater food sovereignty in which producers and consumers have control over the food that they produce or eat. It also recognises issues of food justice and aims to address

prevailing inequities in the food system: inequalities that are avoidable, unnecessary and unjust. Agency implies building the capacity of historically disadvantaged individuals and marginalised communities (including children, women, small producers, informal businesses) to define and secure their desired food systems and nutritional outcomes, and to engage in food system policies and processes.⁴³

- **Sustainability** refers to food system practices that protect and regenerate the natural environment over the long term. This includes both the promotion of environmentally sustainable systems of food production, processing and distribution, and the adoption of sustainable diets.

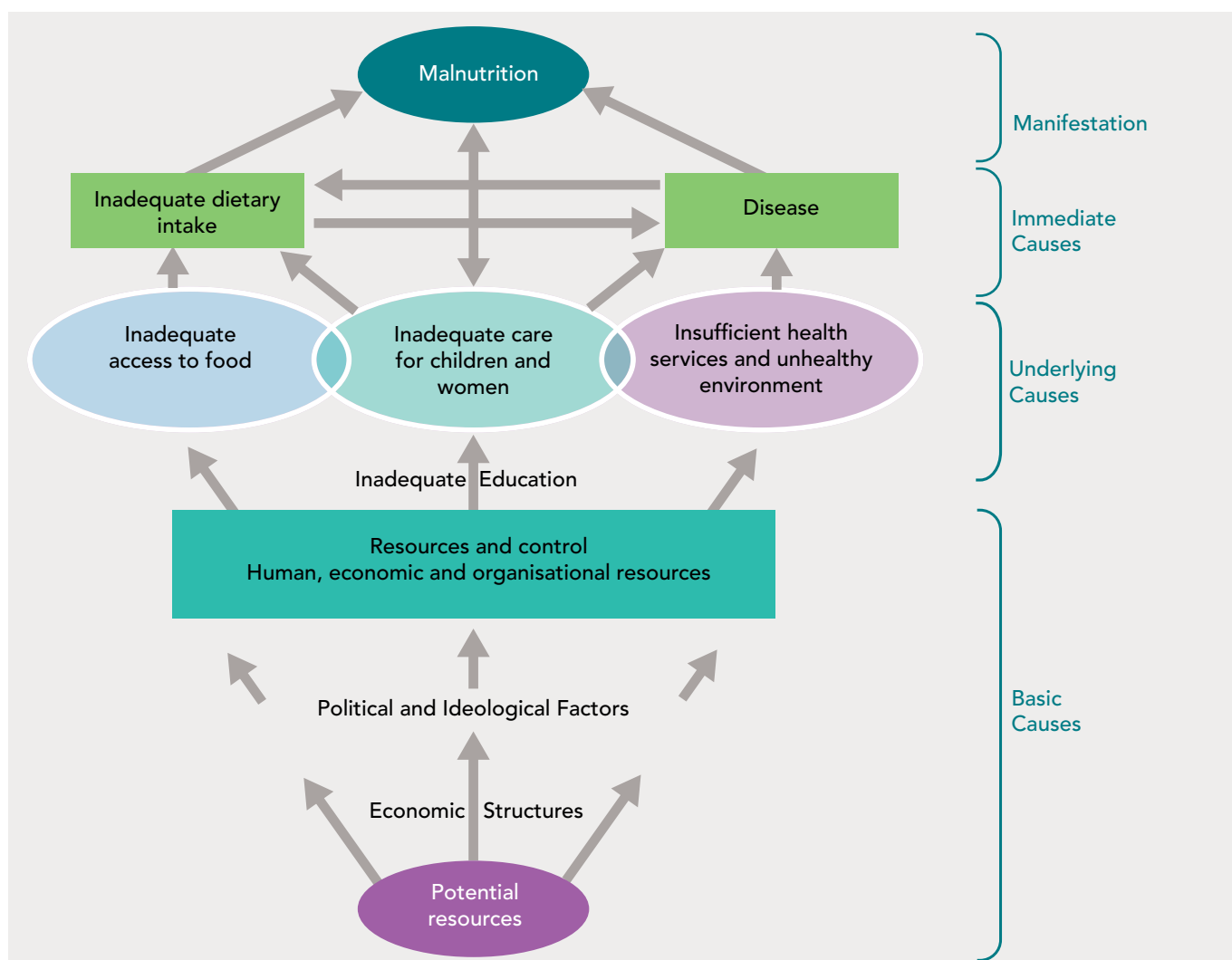
A multidimensional approach

In this issue of the *Child Gauge*, food and nutrition security are presented as multi-dimensional. They involve both the consumption of too little, and too much food; the types of

diet that are available and affordable; care arrangements and the physical environment; and issues of food safety and knowledge about the preparation of food. In addition, we recognise that the intensity of food and nutrition insecurity varies, and individuals may experience multiple forms of deprivations that may intersect and reinforce one another. Furthermore, the duration of episodes of food and nutrition insecurity also vary over the life course, as do their consequences. Finally, as a human right, there is culpability for the production of food and nutrition insecurity, and a duty to ensure their reduction.

Food and nutrition security are central to the achievement of the Sustainable Development Goals (SDGs) adopted by 193 countries around the world in 2015, including South Africa. SDG 2 (Zero Hunger) is directly relevant, but food and nutrition security is also dependent on the achievement of many other SDGs including SDG1 (Ending Poverty), SDG 3 (Good Health

Figure 5: UNICEF Framework of Malnutrition



Adapted from: UNICEF. Strategy for improved nutrition of children and women in developing countries. UNICEF, New York, June 1990

Case 1: Changes in food consumption patterns across the life course and impact on health and growth: Findings from the Birth-to-Twenty Plus cohort study

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Since its inception in 1990, the Soweto Birth-to-Twenty Plus cohort (BT20+) has tracked the impact of social, demographic, economic and epidemiologic changes on the health and well-being of children and their mothers.¹ While a myriad of genetic, behavioural and environmental factors interplay and impact on human development and health, this case focuses on longitudinal changes in food consumption and their impact on growth and development from birth to adolescence.

Infancy (1990 – 1993)

Over the last 30 years, policies, programmes and recommendations on infant and young child feeding practices in South Africa have changed, impacting stakeholders' knowledge and practices.⁸⁰ In the 1990s, when BT20+ participants were born, mothers were encouraged to breastfeed exclusively until 4 – 6 months, in a context of an extremely low national rate of exclusive breastfeeding (EBF) (see Table 1).^{80, 81} While 96% of the BT20+ children were breastfed at least once, the median duration of breastfeeding was 13 months.⁸¹⁻⁸³

Ninety-six percent of BT20+ infants were introduced to solid foods before 6 months old. At one year of age, they had good dietary diversity with a consumption per week of 32 different food items and 10 food groups out of 11 categories (dairy and by-products; grains, cereals, and starch; meat and fish; legumes, nuts, and by-products; vegetables rich in vitamin A; other vegetables; fats and oil; fruits; sweets and sweeten beverages; eggs; miscellaneous) adapted from those recommended by the Food and Agriculture Organisation (FAO).⁸³ The 10 most frequently consumed food items were commercial mielie meal, rice, brown bread, plain biscuit, eggs, peanut butter, gravy, banana and orange, and over a third (37 – 39%) of BT20+ children consumed legumes, nuts and their by-products.⁵ Despite this diversity, their diet was inadequate: high in carbohydrates (including refined sugar) and fat and low in micronutrients.⁸³

While the short duration of breastfeeding was associated with a higher risk of stunting at two years of age, the early introduction of an inadequate diet was associated with a deterioration in children's nutritional

status between one and two years of age.^{82, 83} Indeed, the different forms of undernutrition had almost doubled: by the age of two, 20 – 22% of children were stunted, 8% wasted, 25% underweight and 28% overweight or obese.^{83, 84} More than half of the children presented with one or more forms of malnutrition, indicating a double burden of malnutrition in children in the early 1990s.⁸¹

Childhood (1993 – 2003)

In 1994, the government introduced the National School Nutrition Programme, which provides meals to children in public schools.⁸⁵ The BT20+ cohort would have benefited from that programme but would have been primarily dependent on food procured in the household. Although they consumed more food items during childhood (546 items), the first ten items were similar to those reported during infancy (rice, stiff maize-meal porridge, chicken, sugar, sweets, tea, eggs, full-cream milk, carbonated beverages and oil), and there was little variation in the food items consumed between 5 and 13 years old (Table 2).⁸⁶ There was, however, a noticeable decrease in the consumption of fruits and vegetables and a sharp increase in the consumption of polony, fruit juice, ice cream and margarine.⁸⁶

During childhood, nutritional intake has less impact on height than it has on weight and brain development.^{87, 88} Only 19% of BT20+ children who were stunted at two years recovered a normal height trajectory by five years of age.¹¹ BT20+ children who recovered from stunting in infancy showed similar cognitive impairment to those children who remained stunted.⁹⁰ Furthermore, the highest incidence of obesity was observed in boys and girls aged 4 – 12-years-old (4 – 5%),⁸⁴ suggesting that the continuation of a diet high in carbohydrates and fats and low in micronutrients may have laid the foundation for adolescent obesity.

Adolescence (2003 – 2017)

Adolescents have greater autonomy than children, and their eating behaviours are shaped not only by their family, but also by their peers and the food market and marketing environment.

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During adolescence, less than half of the BT20+ children (40%) consumed their main meals outside of their home.⁹¹⁻⁹³ Only 10 – 20% regularly brought lunch boxes to school (≥ 2 times/week).⁹¹⁻⁹³ Some 60 – 70% of adolescents regularly purchased food at the tuckshops (≥ 10 times/week), and consumed fast food (≥ 3 times/week), sweetened beverages (≥ 2 times/week) and confectionary (9 – 10 items/week, ≥ 7 times/week).⁹¹⁻⁹³

Fast-food consumption (McDonalds, Steers, and KFC) increased with age and the first five preferred fast-food items were fried chips, vetkoek (fried dough balls), fried fish (battered), pies (pastry with a filling, usually meat) and boerewors (local sausage) rolls.⁹³ Sweets, crisps and soft drinks represented 65% of the total confectionery/beverage items consumed, with an increased preference for soft drinks and chocolate and a decreased preference for sweets, ice cream and squash (cordial) with age.⁹³ Snacking on bread, crisps, fruits, sweet biscuits and chocolate while watching TV also increased with age.⁹³ Overall, the consumption of fast-food increased during adolescence, and at 17 years of age, fast-food contributed more than half of the recommended daily salt intake and three times the recommended daily intake of added sugar,¹⁶ with girls consuming confectionary, sweetened beverages and snacks more often than boys.⁹³

In other words, the high carbohydrate – high fat – low micronutrient diet continued through adolescence. Higher consumption of sweetened beverages in boys aged 17 years old was associated with an increase in body fat.⁹² However, the prevalence of overweight and obesity was two to three times higher in girls and increased during adolescence (25% – 27%) while the prevalence decreased amongst boys (12% – 8%), reflecting different physical activity patterns during adolescence between boys and girls.^{84,95} BT20+ children who had rapid weight gain during childhood were more likely to have earlier pubertal development, a further risk factor for obesity.^{96,97} Adolescents' perceptions of their body size (too fat or thin), together with cultural and popular norms, may also influence their eating behaviour and increase their risk of developing eating disorders such as anorexia and bulimia.⁹⁸ By the time BT20+ cohort became young adults at 22 – 24 years, 15.5% of young men and 47.5% of young women were overweight or obese.⁸⁴

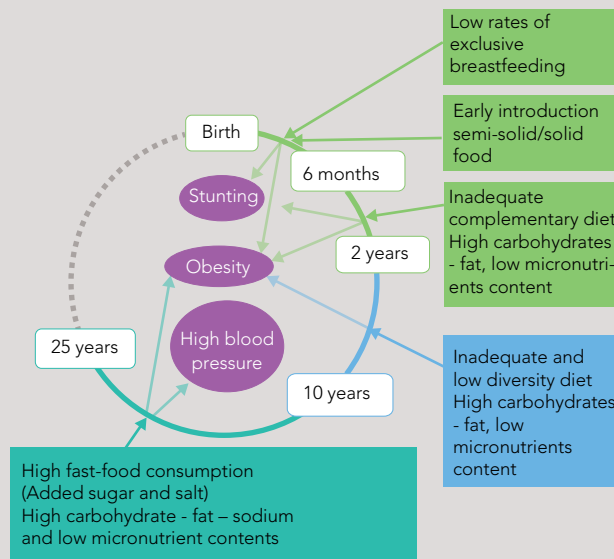
What are the highlights?

Food and dietary habits may have played a significant role in the growth, development and health of the BT20+ cohort.⁹⁹⁻¹⁰¹ Retracing the BT20+ diet from birth to the onset of adulthood:

- reinforces that the impact of food and dietary patterns on growth and development starts early and continues into adolescence,
- demonstrates how the low rates and short duration of exclusive breastfeeding, combined with early introduction of nutritionally inadequate complementary foods, may have contributed to childhood stunting and a rise in obesity,
- highlights how access to unhealthy food procured outside of the home contributes to the current epidemic of adolescent obesity, particularly in young women,
- emphasizes the need for a life-course approach to nutrition and stage-specific targets, including exclusive breastfeeding and adequate complementary feeding in infancy, high diversity and nutritional food quality from childhood, and promotion of a healthy dietary habits in adolescence (Figure 6).

Finally, findings from the BT20+ cohort study highlight the need for integrated programmes that target children, families, households, communities and stakeholders in the food industry to create a nutritionally adequate food environment within which children and adolescents can grow and learn healthy eating behaviours.

Life course nutritional risk factors in the Soweto Birth-to-Twenty Plus Cohort



& Well-Being), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities & Communities and SDG 12 (Responsible Consumption & Production)).⁴⁴

Food and nutrition security are also central to the UNICEF conceptual framework developed in 1990 that outlines the immediate, underlying and basic causes of the undernutrition of children in Figure 5.

The immediate, underlying and basic causes of malnutrition

The UNICEF framework highlights how malnutrition is the manifestation of its immediate causes (inadequate diet and disease), that in turn are driven by underlying causes (inadequate access to food; care; health care services and an unhealthy environment); and ultimately by the basic causes (the broader social, economic and political forces that perpetuate and produce poverty and inequality, neglect human rights and deny people access to essential resources).

The UNICEF framework continues to evolve and adapt to specific areas of concern. For example, Gross and colleagues highlight the role of health care services.⁴⁵ These are particularly important for pregnant women, young children and adolescents as health services offer preventative and health promoting services such as antenatal care, immunisation, growth monitoring, nutrition support, and sexual and reproductive health services. In other words, available food is not sufficient to ensure optimal nutrition unless there are functional health systems to prevent and manage disease throughout the life course – with a particular emphasis on the first two years of life when children are most vulnerable to infection.

The malnutrition-infection cycle is a key driver of under-five mortality. In developing countries, and here in South Africa, infectious diseases, such as diarrhoeal diseases and acute respiratory tract infections, are leading causes of child mortality, while 45% of all childhood deaths globally have undernutrition as an underlying condition.⁴⁶ This adaptation of the UNICEF framework also makes a clear distinction between environmental health and health care services, recognising how poor health status is also influenced by unhealthy living conditions and the need to engage with other sectors to improve access to housing, water and sanitation.

More recently, Black and colleagues proposed a revised conceptual framework that aims to ensure that children not only survive but thrive and are able to form relationships, learn, take on responsibilities, and ultimately establish a family, provide economic stability and contribute to society.⁴⁷

Drawing on the Nurturing Care Framework, they highlight the need for an integrated and multi-sectoral approach that extends beyond good health and adequate nutrition to include responsive caregiving, and opportunities to explore and learn, within a secure and safe environment.

Applying the UNICEF Conceptual Framework highlights how the slow violence of child hunger and malnutrition is embedded in the social, economic and physical environments in which children are conceived, born and raised as illustrated in Table 3.

The social and environmental determinants of malnutrition

Nearly two thirds of South Africa's children (59%) live below the upper-bound poverty line (in households with a per capita income of less than R1,183/month) and one third of children live below the food poverty line (R571/month).⁴⁸ This is just enough to meet the nutritional needs of a child but without any allowance for other essentials such as clothing and shelter. For this reason, the *South African Child Gauge* uses the upper-bound poverty line which is the minimum needed to meet a child's basic and nutritional needs.

Given high unemployment, social grants provide an essential safety net for many households. Access to the Child Support Grant (CSG) has increased dramatically since 1998. The grant now reaches over 12 million children and is associated with a decline in child poverty and hunger. Yet the value of the CSG (R450 in October 2020) falls well below the food poverty line and has not been sufficient to reduce the burden of stunting.

South African women carry the primary burden of care for children.⁴⁹ Only 34% of children live with both biological parents, 43% with mother only, and 23% of children live with neither parent⁴⁸ – most of whom are cared for by relatives (mostly grandmothers) to free women up to seek work elsewhere. This speaks to the ways in which family forms are often stretched and fluid as children move between households and provinces.⁵⁰ Yet despite these livelihood strategies, levels of unemployment are particularly high amongst women (with an expanded unemployment rate of 42% in the third quarter of 2019).

COVID-19 and the associated lockdown further intensified these pressures, with women accounting for nearly 60% of the three million jobs lost between February and June 2020.²⁶ Emerging evidence points to a clear association between poverty, food insecurity, domestic violence and common mental disorders that undermine mothers' capacity to respond and care for their children, and these pressures intensified during lockdown.⁵¹

Further, a Gini coefficient of 0.65 gives South Africa the unenviable position of the most unequal country in the world among countries in which indicators are available.⁸ South Africa is also identified as one of seven countries driving increasing inequality in Africa.⁵³ These extreme inequalities are important for child nutrition and food security. Growing up in a poor household is likely to compromise children's living conditions and access to services giving rise to multiple forms of deprivation and social exclusion that may culminate in poverty traps that are increasingly difficult to escape. This is shown by the striking inequalities in stunting across socio-

economic status. The SADHS found that 12.5% of children under 5 years in the wealthiest group were stunted, compared to 36.3% in the poorest wealth group.⁶ The nature of these inequalities goes beyond wealth or income levels and include geographical areas and gender. Income and food security rates differ significantly across and within provinces. Furthermore, the initial narrowing of the gap in the prevalence of stunting reported by May and Timaeus between 1990 and 2008 appears to have slowed.⁵⁴ Comparing concentration curves for under-five stunting using the NIDS survey, Jonah and colleagues find that inequalities persist in stunting between 2009 and 2014

Table 3: Social and environmental determinants of child health and nutrition

Living conditions	2008	2018
Children without access to adequate water	37% ^a	30% ^b
Children without access to adequate sanitation	46% ^a	21% ^b
Children without access to electricity	20% ^a	9% ^b
Children living in informal housing	10% ^a	9% ^b
Children living in overcrowded households	26% ^a	18% ^b
Access to health care services		
Children living far from clinic	41% ^a	20% ^b
Early antenatal care (< 20 weeks)	32.5% ^c	68% ^d
Infants fully immunised (≤ 1 year)	89.5% ^c	82% ^d
Vitamin A coverage (1 – 5 years old)	32% ^c	57% ^d
Care arrangements		
Children with mother only	39% ^a	43% ^b
Children living with neither parent	22% ^a	20% ^b
Poverty and unemployment		
Children living in unemployed households	35% ^a	30% ^b
Children living below the upper-bound poverty line (R1,183/month)	71% ^a	59% ^b
Children living below the food poverty line (R547/month)	41% ^a	33% ^b
Education		
Children attending early learning programmes or Grade R (3 – 5 years old)	N/A	69% ^e
Children attending school (7 – 17 years old)	96% ^a	98% ^b
Youth (15 – 24) not in employment, education or training	33% ^a	34% ^b

Notes: For more information on many of these indicators see Part 3: Children Count in this issue of the *South African Child Gauge*.

Sources:

- Statistics South Africa (2009) *General Household Survey 2008*. Pretoria: Stats SA. Analysis by Katharine Hall, Children's Institute, University of Cape Town.
- Statistics South Africa (2019) *General Household Survey 2018*. Pretoria: Stats SA. Analysis by Katharine Hall, Children's Institute, University of Cape Town.
- F Monticelli, C Day, P Barron, R Haynes & J Smith (2009) *District Health Barometer 2008/09*. Durban: Health Systems Trust.
- Massyn N, Barron P, Day C, Ndlovu N & Padarath A (2020) *District Health Barometer 2018/19*. Durban: Health Systems Trust.
- Statistics South Africa (2018) *General Household Survey 2017*. Pretoria: Stats SA. Analysis by Katharine Hall, Children's Institute, University of Cape Town.

and are more extensive in urban areas as compared to rural areas.⁵⁵ This is concerning since in the context of pre-existing high inequality levels, fiscal policy tools commonly applied to health and nutrition programmes may disproportionately benefit the wealthy and burden the poor.

South Africa's children are disproportionately concentrated in deep rural areas and informal settlements, in poor households with high levels of overcrowding and limited access to basic services: 30% of children live in households without access to adequate water, and 21% are without adequate sanitation.⁵⁶ This increases the risk of infections such as diarrhoea and pneumonia, which further compromise children's nutritional status.

Access to health care is also compromised, with 20% of children travelling more than 30 minutes to reach their health care facility.⁵⁷ Despite these challenges, health care services provide an important platform for treating illness and promoting optimal growth and development – starting early in the antenatal period. The increase in access to early antenatal care provides an important platform for promoting optimal maternal and child health and nutrition, from preventing the mother-to-child transmission of HIV to micronutrient supplements and interventions and support to address violence, obesity, gestational diabetes, smoking and substance use.

Similarly, immunisation coverage provides a proxy for children's access to other primary health care services such as growth monitoring and deworming during the first year of life. Yet immunisation coverage under one year (82%)⁵⁸ falls below the World Health Organization (WHO) target of 90% necessary to achieve herd immunity. Access to routine healthcare services has been further disrupted by COVID-19, raising fears about outbreaks of vaccine-preventable diseases such as measles, pneumonia and diarrhoea.

Access to routine health services declines as children get older, with only 57% of children 1 – 5 years old receiving two doses of vitamin A⁵⁸. Therefore, it is vital to consider other platforms – such as early childhood development (ECD) programmes, schools and the ward-based outreach teams – to provide nutritional support beyond the first 1,000 days of life. Access to ECD programmes has increased, yet only two-thirds of young children attend an early learning programme. By contrast, access to formal schooling is nearly universal (98%), yet quality remains a concern. Of 100 learners who started grade 1, only 60 wrote matric in 2008,³⁷ passed, and 13 qualified to go to university.⁶⁰

Poor quality education combined with high levels of structural unemployment further limits young people's life

chances, with 53% of youth aged 21 – 24 not in employment, education or training. This equates to a tremendous loss of potential, which then impacts the health, care and development of the next generation.

While poverty and inequality are key drivers of undernutrition, the rise in overweight, obesity and NCDs stem from a global increase in the consumption of processed foods coupled with increasingly sedentary lifestyles. These foods are high in salt, sugar and unhealthy fats, and low in micronutrients, and are designed to be highly addictive, which helps fuel excessive weight gain.⁶² The global food system has become increasingly dominated by a handful of transnational companies that are expanding their markets in the global South with sophisticated marketing campaigns, supermarkets, fast food outlets and informal traders enabling sugar-sweetened beverages and ultra-processed foods to penetrate deep into informal settlements and rural communities, transforming both the local food environment and individual food preferences.⁶³ These foods are cheap, convenient and easily accessible and particularly appealing in contexts of income-, energy- and time-poverty.

What are children's rights and entitlements?

The Constitution of the Republic of South Africa is the supreme law of our country,⁶⁴ and includes a suite of human rights which aim to build a free, equal, dignified and democratic society.⁶⁵ This includes a mix of civil, political and socio-economic rights. These rights are interdependent, meaning that the civil right to life (section 11), for example, is inextricably bound up with socio-economic rights to have access to sufficient food and water, social security and health care (section 27), amongst others, because all of these are required for the sustaining of life. The state's negative obligation not to interfere with the right to life must be understood as linked to the state's positive obligation to create the environment to allow for a dignified life.

Since socio-economic rights require financial investment by the state, the Constitution provides that the State 'must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation' of each of these rights.⁶⁶ The State must put in place plans, policies, laws, programmes, budgets and services to progressively give effect to these rights. To be considered 'reasonable' measures, these must be effective, have sufficient funds allocated to them, be reasonably implemented and be transparent.⁶⁷ They must also be balanced and flexible and make provision for short, medium and long-term needs and must be inclusive, especially of those whose needs are the most urgent.⁶⁸

Section 28(1)(c) of the Constitution provides for every child's right to basic nutrition, shelter, basic health care and social services.⁶⁹ Significantly, these rights are not subject to progressive realisation. In other words, children or those acting on their behalf can call upon government to make the goods and services attached to these right immediately available. The State cannot rely on resource constraints when fulfilling the rights in section 28(1)(c), as it should have budgeted for its existing obligations.

It is not a coincidence that children's socio-economic rights entitlements are framed differently from those of adults in the Constitution. The drafters of the Constitution clearly saw that due to their vulnerability and lack of maturity, children could not be expected to actively fight for their rights through human rights discourse, and therefore decided to formulate the rights in a manner that would cause the state 'to make a greater effort in order to secure the rights of children'.

The majority of children live with parents, and it is true that the parents have an obligation to care for their children and provide the conditions of living necessary for their development (including adequate nutrition, where it is possible for them to do so).⁷⁰ However, article 27 (3) of the Convention on the Rights of the Child (CRC) makes it clear that states shall take 'appropriate measures to assist parents and others responsible for the child to implement this right, and shall, in case of need, provide material assistance and support programmes' with regard to nutrition.

The Court recognised the state's obligation to provide nutrition to children whose parents lack the necessary means in the case of *Equal Education and others v Minister of Basic Education and others* (see case 21).⁷¹ The Court also noted that once a state has taken on such an obligation, it cannot 'back-track'. The CRC Committee's General Comment 19 on budgeting has made it clear that states should not take deliberate regressive measures in relation to socio-economic rights. Drawing on General Comment 19, the Court pointed out that even in times of economic crisis, regressive measures may only be considered after assessing all other options and ensuring that children are the last to be affected, especially those in vulnerable situations.⁷²

It is important not to see children's rights in isolation. While section 28 specifically speaks to the rights of children, children are also entitled to the other rights contained in the Constitution, such as the right to basic education (section 29). Second, all rights are interdependent and indivisible.⁷³ For example, a child cannot enjoy the right to dignity without the right to equality. In *Equal Education and others v Minister of Basic Education and others*, the Court

recognized the interdependence between a child's access to food and a child's ability to enjoy their right to education and health.⁷¹ It is therefore important that the state considers this interdependence and interrelatedness, and ensures that it does not limit its policy and programmatic responses to certain sectors or departments, emphasizing the need for intersectoral collaboration and coordination.

What are the key opportunities for intervention to improve child nutrition?

Food and nutrition outcomes are complex, even at an individual level within individual households, where both undernutrition and overnutrition coexist as is the case in the majority of households in South Africa. Opportunities to intervene and to maximize impact are imperative if we are to stem the tide of all forms of malnutrition and its devastating impact on children's lives. In our shrinking economy, we need to make use of every point of contact to strengthen support for mothers, adolescents and children.

Table 4 outlines possible nutrition-specific interventions and opportunities to mitigate the slow violence of child hunger in South Africa. These must be sensitive to children's changing nutritional needs from the first 1,000 days onwards. They also need to identify delivery platforms appropriate to different points in the life course.

Table 5 extends this analysis and highlights the need for both nutrition-specific and nutrition-sensitive interventions to address the broader drivers of the double burden of malnutrition – including social protection, health care services, and adequate water, housing and sanitation. Supporting the optimal health and nutrition of children and families requires an intersectoral, whole of society approach that harnesses the efforts of Health, Education, Social Development, Labour, and Trade and Industry to create a more equitable and enabling environment for South Africa's children. Interventions listed in *italics* are recommended but not yet in place, while concerns remain about the coverage and quality of other programmes.

Food and nutrition interventions are widely recognised and evidenced to require a multi-sectoral response. Several African countries that have successfully improved child malnutrition have included high-level accountability and co-ordination structures to oversee food security and nutrition policy and programme implementation.⁷⁴ Coordination needs to be linked to accountability mechanisms and must extend beyond setting up structures and should ideally build a common understanding amongst stakeholders, strengthen advocacy efforts and implementation, and emphasise a people-centred rather than a top-down approach.⁷⁵

South Africa's Integrated Food and Nutrition Security Strategic Policy has since 2014 proposed the establishment of a National Food and Nutrition Advisory Committee to be chaired by the Deputy President. Had such an Advisory Committee been in place when the COVID-19 pandemic struck, the South African government's food and nutrition response might have been

more proactive. Instead, community-based organisations stepped in to provide immediate food relief under severe resource constraints, and civil society eventually resorted to litigation to get government to respond to the rise in hunger and the anticipated long-lasting and deep impact on maternal and child nutrition.

Table 4: Nutrition-specific interventions to mitigate the slow violence of child hunger in South Africa

	Evidence-based interventions	Delivery platforms	Existing programmes	
First 1,000 days	Pregnancy	<ul style="list-style-type: none"> • Preconception care • Optimal weight management • Identification of malnutrition and prevention of low birth weight • Micronutrient supplements • Iodised salt • Deworming • Prevention and treatment of HIV/TB and malaria • Health education on safe sex and prevention of substance use • Regulations relating to foodstuff for infants and young children (no direct marketing to mothers) 	<ul style="list-style-type: none"> • Basic antenatal care at primary health care clinics and hospitals • Community-based and mobile health services 	<ul style="list-style-type: none"> • Prevention of mother-to-child transmission • Mother Baby Friendly Initiative • Basic antenatal care • Infant and young child feeding
	Birth	<ul style="list-style-type: none"> • Immediate and exclusive breastfeeding • Delayed cord clamping • Counselling on safe sex during the breastfeeding period • Regulations relating to foodstuff for infants and young children (no direct marketing to mothers and other caregivers) • Promotion of hand washing and hygiene • Access to the child support grant (CSG) and other social protection measures • Immunization 	<ul style="list-style-type: none"> • Maternity units • Hospitals • Community 	<ul style="list-style-type: none"> • Mother Baby Friendly Initiative • Primary health care service • Ensure birth registration to enable access to social protection
	0 – 6 months	<ul style="list-style-type: none"> • Exclusive breastfeeding • Management of infectious diseases e.g. diarrhoea • Growth monitoring and promotion • Treatment of moderate and severe acute malnutrition • Counselling on safe sex during the breastfeeding period • Promotion of hand washing and hygiene • Access to the CSG • immunization 	<ul style="list-style-type: none"> • Primary health care clinics and hospitals 	<ul style="list-style-type: none"> • Mother Baby Friendly Initiative • Primary health care services, including road to health book
	6 – 24 months	<ul style="list-style-type: none"> • Continued breastfeeding and complementary feeding • Micronutrient supplements (Vitamin A, iron and zinc) • Food fortification and iodised salt • Management of diarrhoea (including zinc) • Deworming • Growth monitoring and promotion • Prevention and treatment of moderate malnutrition • Treatment of severe acute malnutrition • Targeted supplementary feeding • Regulations relating to foodstuff for infants and young children (no direct marketing to mothers) • Promotion of hand washing and hygiene • Access to the CSG • Immunization 	<ul style="list-style-type: none"> • Primary health care clinics and hospitals • Community • Early childhood development facilities 	<ul style="list-style-type: none"> • Child health primary health care service package • Community-based services
Continued investment in nutrition	2 – 5 years	<ul style="list-style-type: none"> • Growth monitoring and promotion • Treatment of severe acute malnutrition • Food fortification and iodised salt • Micronutrient supplementation (Vitamin A, iron and zinc) • Deworming • Nutrition education on healthy diets • Regulations relating to foodstuff for infants and young children (no direct marketing to mothers) • Promotion of hand washing and hygiene • Access to the child support grant 	<ul style="list-style-type: none"> • Primary health care clinics and hospitals • Community • Early childhood development facilities • Communities 	<ul style="list-style-type: none"> • Primary health care services

Continued investment in nutrition	5 – 9 years			
		<ul style="list-style-type: none"> • Health screening • School feeding • Deworming • Food-Based Dietary Guidelines • Nutrition education in the curriculum • Food garden initiatives • Promotion of hand washing and hygiene • Access to the child support grant 	<ul style="list-style-type: none"> • Primary health care facilities • Hospitals • Schools • Community 	<ul style="list-style-type: none"> • Primary health care child health services • School health services • National School Nutrition Programme
	10 – 18 years	<ul style="list-style-type: none"> • Health screening • School feeding • Deworming • Food-Based Dietary Guidelines • Nutrition education in curriculum • Food garden initiatives (at school and in communities) • Promotion of hand washing and hygiene • Access to the child support grant 	<ul style="list-style-type: none"> • Schools • Primary health care facilities • Hospitals • Community 	<ul style="list-style-type: none"> • National School Nutrition Programme • Adolescent and youth friendly clinics • School health services

Adapted from: Hendricks M, Goeiman H & Hawkrigde A (2013) Promoting healthy growth: Strengthening nutritional support for mothers, infants and children. In: Berry L, Biersteker L, Dawes A, Lake L & Smith C (eds) South African Child Gauge 2013. Cape Town: Children's Institute, UCT.

What are the key policy recommendations?

South Africa can learn from the experience of other countries in which there has been greater success with the reduction of child food and nutrition insecurity. Double-duty actions are one recent innovation that has the potential to simultaneously reduce the risk of undernutrition, micronutrient deficiency and overweight, obesity or diet-related NCDs. In this context, "Cash Plus" programmes can serve as a far-reaching double-duty action. These are social protection policies that combine cash transfers such as social grants with links to other services (as in Case 22 on the proposed maternity grant). These can include social and behaviour change communication around good nutrition, feeding and hygiene practices (such as Case 23 on the CoCare vouchers), and fiscal policies that provide incentives for healthier diets and increase the costs of diets that are unhealthy. As another example, micronutrient supplements to boost preconception health could easily be integrated into the National School Nutrition Programme. It is also possible to include greater investments in antenatal and postnatal health care, and in the nutrition of adolescent girls and pregnant and breastfeeding women as a component of a Cash Plus programme.

More broadly, a holistic approach that sets targets to reduce child malnutrition is necessary. Brazil's "Zero Hunger Programme" is an example of how this can be achieved. During the past 20 years, Brazil reduced child stunting from about 25% in 1985 to just 7% by 2007. Monteiro and colleagues identified four factors that contributed towards this:⁷⁶

- Better educated mothers, due to rising access and quality of education services;
- Rising incomes of poor families, due to economic growth, rising minimum wages, the Family Agriculture Programme and cash transfers such as *Bolsa Familia* linked to social services;

- Improving maternal and child health care, due to free health services and the Family Health Strategy; and
- Wider coverage of water supply and sanitation services as measured by the numbers of households served by the public water supply and the public sewage system.

Such a policy should include multi-sectoral coordination and accountability mechanisms to achieve the necessary improvements in incomes, diets, education, quality health care, clean water, sanitation and hygiene in order to protect children and enable a successful transition to adulthood. The long-awaited National Nutrition and Food Security Council would go a long way towards establishing such coordination at a national level, but coordination will also be necessary in all spheres of government. Particular attention should be paid to provincial and local government who are responsible for many of the indirect drivers of food and nutrition insecurity, including water, sanitation, electricity, health care and zoning.

Lessons from the COVID-19 pandemic also highlight the need to improve coordination at a local level as was achieved by the Community Action Networks (CANS), the Western Cape Food Relief Forum, and the mobilization of small farmers and growers across the country. Empowerment is also needed at the household level to enable caregivers to act to prevent disease and ensure optimal nutrition within their resource constraints. This includes recognising the power of children and adolescents as consumers in their own right, and enabling children and families to make informed and healthy choices free from commercial pressures as recommended by the WHO-LANCET-UNICEF Commission on the Future of the World's Children⁷⁷ and the UN Committee on the Rights of the Child's General Comment on the State's responsibility to protect children from harmful and exploitative business practices⁷⁸.

Table 5: An intersectoral approach to promote optimal nutrition across the life course

	Pregnancy	Infancy	Preschool	School	Adolescence
Nutrition	Micronutrient supplements	Exclusive breastfeeding (0 – 6 months) and optimal feeding support		National School Nutrition Programme	
	Prevention of low birth weight	Growth monitoring and treatment of severe malnutrition		Nutrition education and food gardens	
	Food-based dietary guidelines, food fortification, food labelling, marketing restrictions, taxes and subsidies				
Health	Early antenatal care Mental health screening and support Family planning	Postnatal care Integrated management of childhood illnesses		School health services (health promotion, screening and referrals)	
		Immunisation			Youth friendly clinics and related services Contraception
	Free primary health care, <i>Universal health coverage</i>				
Caregiver support	Maternity and family responsibility leave Antenatal classes	Child-care services for working or work-seeking caregivers			
		Parenting education and support programmes			
Social services	Maternal grants	Early birth registration and access to social assistance			
	Social services to prevent and address risk factors	Prevention and early intervention programmes Child protection services and psychosocial support			
Education		Early stimulation (caregivers who touch, talk, listen and respond to children)	Access to quality ECD programmes	Access to quality education Care and support services to address barriers to learning	
		Safe, stable, nurturing environment and responsive care Access to toys, books, sports and recreational facilities			
Environment	Adequate, electricity, water and sanitation Safe and affordable energy and transport				

Adapted from: Berry L, Biersteker L, Dawes A, Lake L & Smith C (2013) Stepping up national development: Prioritising services for young children. *South African Child Gauge 2013*. [poster] Cape Town: Children’s Institute, UCT.

The COVID-19 pandemic and economic recession threaten to intensify the slow violence of child malnutrition, deepen inequities and undermine national development. It is therefore vital that we put children at the heart of our COVID-19 relief efforts and recovery plans and intervene early and decisively to

disrupt the intergenerational transmission of malnutrition. This will require strong leadership, evidence-based strategies and a whole of society approach to address the double burden of malnutrition and ensure no child is left behind.

Box 2: The slow violence of hunger

Gareth Haysom¹

The findings presented in this issue of the *Child Gauge* make it clear that child malnutrition is, without doubt, a form of slow violence: “A violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all ... with its calamitous repercussions playing out across a range of temporal scales”.³

Yet old ways of thinking limit our vision, political will and capacity to take action, and unless we radically reimagine our current policy and conceptual approaches, we will continue to enact slow violence on the children of South Africa.

Firstly, we need to challenge the ways in which we have come to accept and normalise food poverty in all its forms. This normalisation has its roots in the colonial and apartheid policies of exclusion and underdevelopment that have created a food system and food environment that work against many South Africans, despite caregivers’ daily struggles to give their children the best possible future.

This is not to suggest that the poor are ignorant of a good diet or lack the initiative to aspire towards a better diet. This is certainly not the case and caregivers make deeply strategic choices and trade-offs on a day-to-day basis. Yet this daily struggle doesn’t translate into wider political activism.⁷⁹ Society is passive, and the state has become “blind” to issues such as child malnutrition, despite its long-term impact on children and the economy.

Secondly, researchers concerned with food and nutrition security need to expand their view of food environments to encompass the storage of food, transport, energy and water sources. This extends beyond the household to the retail environment where vendors’ decisions on what to stock are informed by factors beyond consumer demand,

for example, vendors without refrigeration are more likely to stock shelf-stable processed foods than fresh foods.

Deeper thought is also needed to ensure that some of the double-duty actions proposed in the *Child Gauge* do not have unintended consequences. For example, some forms of cash transfers may be associated with increased energy costs and lead to food choices (such as preference for instant porridge) that may undermine the intended nutritional benefits. This is not to argue against these but to call for far more systemic consideration of the broader food environment.

Finally, a more reflective approach is required, not just in terms of food and nutrition policy but also in terms of wider governance, planning and development interventions. Current health/child/urban/food system policies and interventions tend to locate the responsibility for better outcomes on the individual, often through awareness campaigns and more active lifestyles, indirectly blaming mothers and caregivers for the current nutrition outcomes instead of addressing the role of the broader food system and the ways in which it shapes local food environments and individual choices.

Addressing this slow violence requires directing important questions at the ‘sacred cows’ of food security. For example, which scale of governance can have the greatest impact on nutrition outcomes given this slow violence and historical trajectory? Are policies at a national level, often focused on increasing production, actually going to address the needs of children? What other spheres of government (and governance) have a role? What is the role of spatial planning, urban management and economic development in child food security? What is the role of nutrition-sensitive planning? And finally, what mix of delivery platforms would prove most effective to translate this vision into action?

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