PART 2

Child and adolescent health – leave no one behind

A series of twelve chapters examines the current status of child and adolescent health in South Africa reflecting on current and emerging challenges, showcasing examples of promising practice, and identifying opportunities for intervention and systems strengthening.

- Prioritising child and adolescent health
- A life course approach
- The first 1,000 days
- Adolescent health
- Children with long term health conditions
- Violence, injury and child safety
- Mental health
- The triple burden of malnutrition
- Environmental health and climate change
- Putting children at the heart of the health care system
- Building a workforce for child health

When health care workers adopt an empathetic approach to children and their caregivers, it creates an enabling environment that supports child and adolescent health.

Prioritising child and adolescent health: A human rights imperative

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Nearly 25 years have passed since the first democratic elections in South Africa – and 10 years since the publication of the 2009 *Child Gauge*, which focused on child health – from survival to optimal development. The interim period has seen the introduction of a series of national and global initiatives that have the potential to enhance child and adolescent health.

Significant progress has been made in certain areas of child health, such as the reversal in under-five mortality. Yet over the same period inequalities have widened; poverty, hunger and violence continue to compromise children's health and development; and emerging challenges, such as climate change and the growing burden of obesity and non-communicable diseases, threaten to erode recent gains.

This period also coincides with the appointment of a new Minister of Health, within the cabinet of a newly-elected President. Major health policy reform is underway, marked by the release of the National Health Insurance Bill, which holds potential for addressing significant fault lines in the South African health system. We are also ten years away from the target dates of the 2030 National Development Plan and the Sustainable Development Goals. It is therefore an opportune moment to reflect on progress and identify critical leverage points, shifts in thinking and examples of best practice that can help us move forward towards ensuring that all South Africa's children reach their full potential.

This issue of the *South African Child Gauge* calls for early and sustained investment in young children and adolescents to disrupt the intergenerational cycles of poverty, violence and malnutrition. This introductory chapter reflects on our commitments to uphold children's right to health; recent trends in child and adolescent health status; and children's access to health care services and to basic living conditions and care arrangements that significantly influence their optimal health and development.

This introductory chapter considers the following questions:

- Why is it essential to prioritise child and adolescent health?
- What are the key elements of children's right to health and health-care services?
- What is the current status of child health in South Africa?
- To what extent are children able to access quality health care?
- Has South Africa made progress in addressing the social determinants of child health?
- How can South Africa draw on global initiatives to reimagine child and adolescent health?
- What are some of the key considerations in setting an agenda for 2030?

The child's name is Today
The child cannot wait.
Right now is the time the child's
bones are being formed,
blood is being made,
senses are being developed.
To the child we cannot answer
'tomorrow'
The child's name is Today.

Gabriela Mistral, Nobel Prize Winning Poet from Chile

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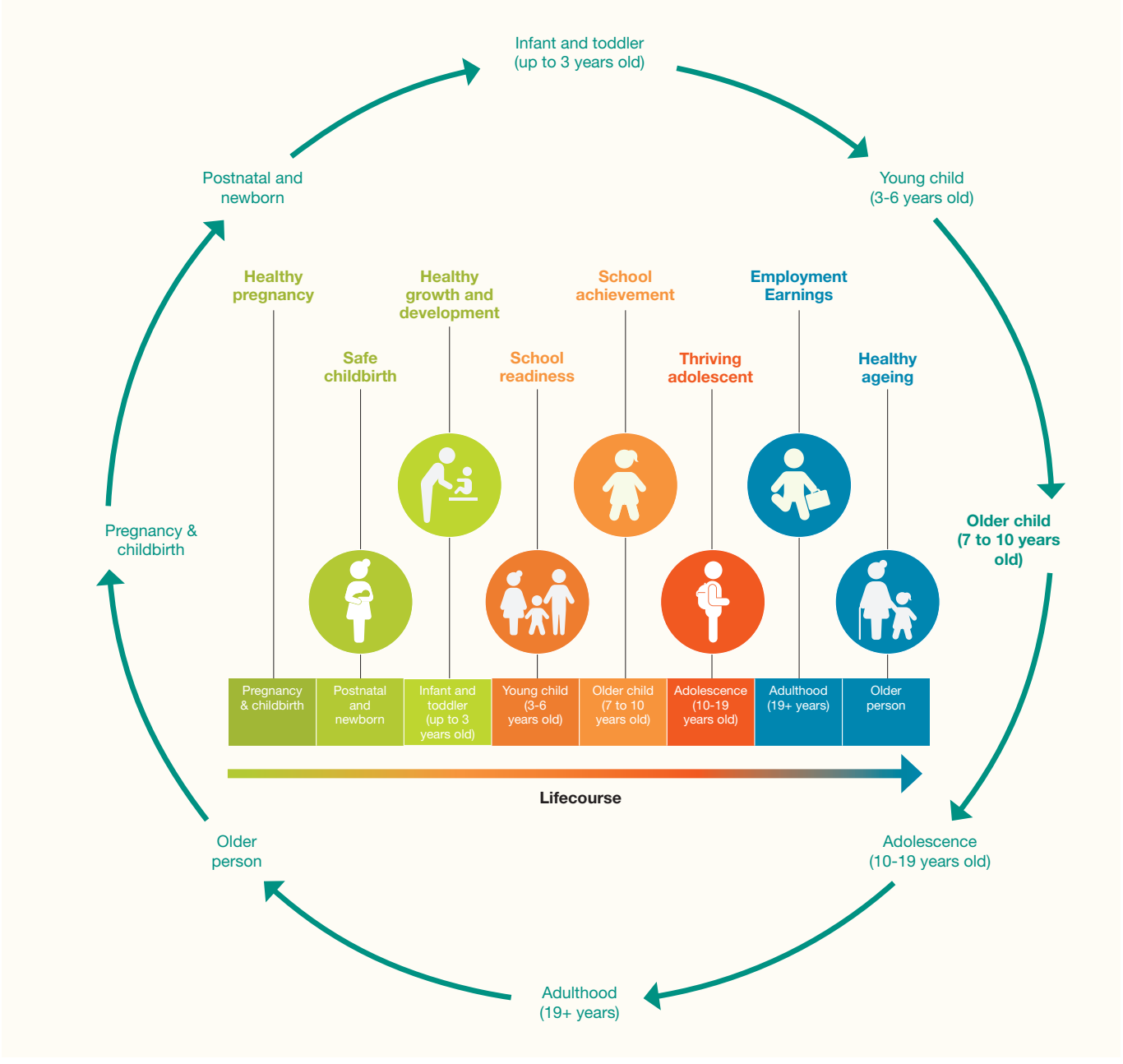
Why is it essential to prioritise child and adolescent health?

There are 19.7 million children in South Africa – in other words, one third (34%) of South Africa's population is under the age of 18 – and close to half of the overall population are under the age of 25.[1] With the right investments to promote their optimal well-being, our young population has the potential to transform our country and drive social and economic development. Emerging evidence from across a range of disciplines has led to a greater appreciation of the way in which early life experiences – even pre-conception – determine the developmental origins and trajectories of health or disease across the life course. It is therefore most effective – and cost effective – to intervene early to protect children from adversity and promote optimal health, growth and development. These early investments in child and adolescent health have the potential to reap a triple dividend – for children today, for the adults they will become tomorrow, and for the next generation of children.

Figure 1: Early investment in child and adolescent health drives development across the life course



Adapted from: World Health Organization, United Nations Children's Fund, World Bank Group (2018) *Nurturing Care for Early Childhood Development: A framework for helping children survive and thrive to transform health and human potential.* Geneva: WHO.

This is especially so during sensitive periods such as the first 1,000 days of life (from conception until a child's second birthday) and adolescence, when the developing body and brain are particularly sensitive to environmental stressors. For example, early exposure to violence in the home helps drive an intergenerational cycle of violence, as it increases the risk of children becoming victims or perpetrators, and later using harsh physical punishment to discipline their own children. Conversely, exclusive breastfeeding for the first six months of life not only provides infants with optimal nutrition, it reduces mortality from diarrhoea and pneumonia, improves IQ and reduces the risk of obesity and non-communicable diseases in adulthood.[2]

Investments in child and adolescent health have the potential to not only reduce the burden of violence, injury and ill health, but also to promote economic development and social cohesion. This resonates with South Africa's vision for 2030 as outlined in the National Development Plan, which recognises how investments in health, early childhood development and South Africa's youth can help level the playing fields, drive social and economic development, and promote a healthier, more resilient and equitable society.

Our obligation is therefore to work towards a South Africa where every child and adolescent lives with a family that loves, cares and supports them, in an environment that promotes their health, safety and wellbeing, and where they can access appropriate health and social services when in need. Such is the South Africa we imagined 25 years ago when we drafted our Constitution and Bill of Rights and accorded our children legally-binding entitlements, which aim to protect them from harm and create an enabling environment in which they are free to realise their full capabilities.

What do we mean by child and adolescent health?

The Constitution defines a *'child'* as a person under the age of 18, yet children's health care needs change dramatically as they pass through a series of developmental stages – from newborns, infants and toddlers through to older children and adolescents.

At times it is important to make clear distinctions between these different periods of development. For example, from a survival perspective it makes sense to treat neonates as a separate group because mortality is particularly high amongst infants in the first month of life, and because the drivers of neonatal mortality are different to the causes of death in the post-neonatal period. Yet if we are interested in ensuring children thrive, then it makes more sense to focus on the first 1,000 days of life because this focuses attention on the continuum of growth and development from conception until a child's second birthday.

Yet the boundaries between these different phases are often fluid. For example, the term '*adolescence*' is used to describe a period of transition from childhood to adulthood, yet there is significant delay between the age at which children start puberty and when they ready to take on their first job, move out of home or start a family of their own, prompting calls to extend the definition of adolescence until the age of 24. By contrast, adolescents in the South African health-care system are expected to make the transition from child to adult services as early as 13. Yet these services are rarely attuned or responsive to adolescents' developmental needs.

Child health has traditionally focused on younger children, and particularly the survival of children under five. This has tended to obscure the health-care needs of older children and adolescents. For this reason, we have chosen to alternate between using child health as an inclusive term that applies to all children from birth to adolescence, and at other times we refer to 'child and adolescent health' in order to make the health-care needs of adolescents more visible.

What are the key elements of children's right to health?

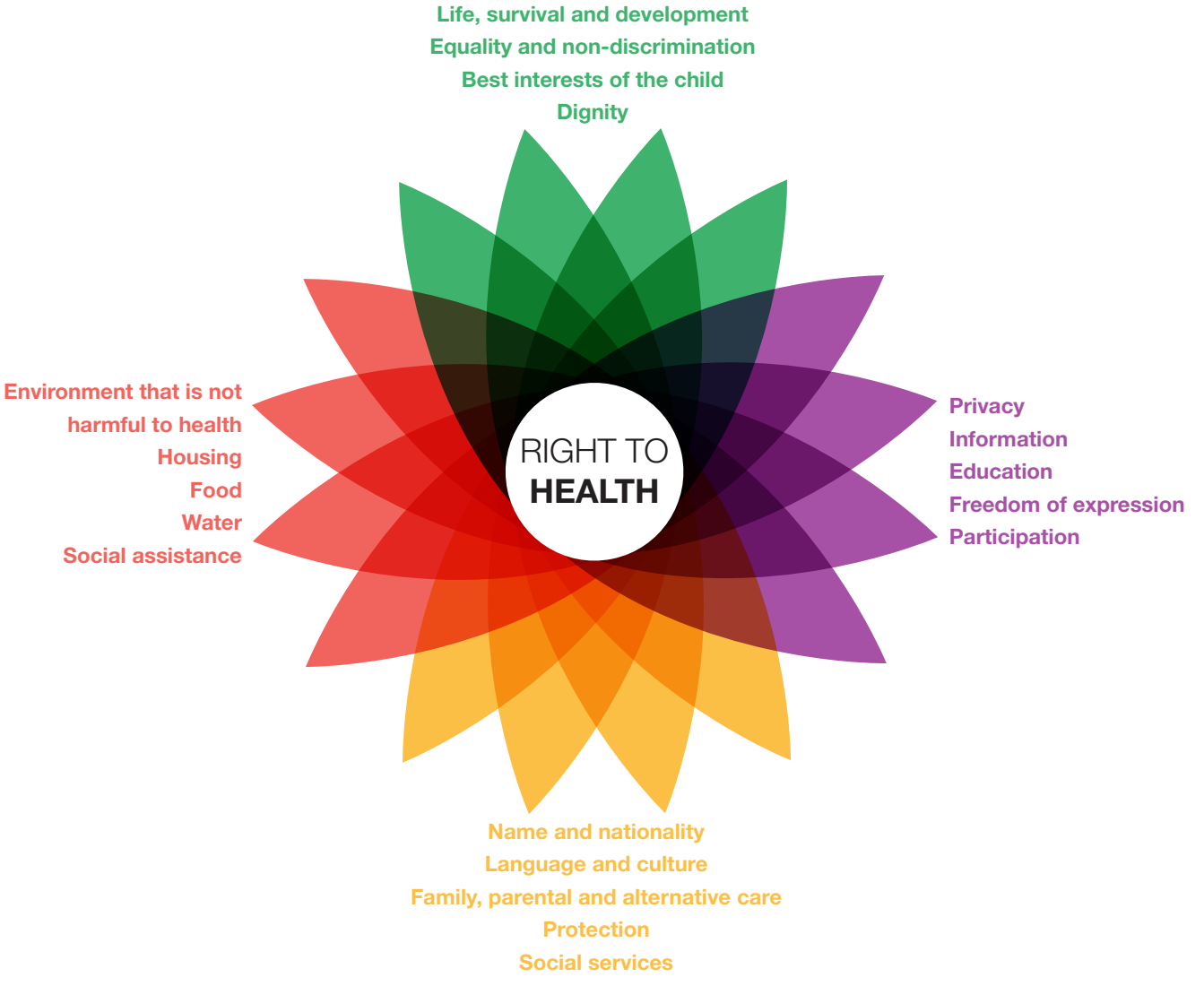
Children's right to the "highest attainable standard of health" is outlined in international law by the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the United Nations Convention of the Rights of the Child (UNCRC), and is defined broadly as:

> *an inclusive right, extending not only to timely and appropriate prevention, health promotion, curative, rehabilitative and palliative services, but also to a right to grow and develop to their full potential and live in conditions that enable them to attain the highest standard of health.*[3]

In other words, achieving children's right to health depends not only on their access to health-care services, but also on their rights to food, water, shelter and an environment that is not harmful to health. It also includes their rights to dignity, equality, family care and protection, which requires the health system to acknowledge and support these rights, and to support access to justice when these rights have been violated – as outlined in Figure 2.

South Africa has ratified both the UNCRC and ICESCR and is therefore obliged to put in place laws, policies, programmes and services, and to allocate sufficient resources to give effect

Figure 2: Children's rights to health and health-care services are interdependent and indivisible



to these rights. In addition, the state is required to report on progress. These periodic country reports, complemented by those of civil society, serve as an important mechanism for holding the state accountable.

The general principles

The UN Committee on the Rights of the Child has also identified four general principles that should guide the interpretation and implementation of all children's rights. These include children's rights to survival and development, equality and non-discrimination, participation and the best interest of the child. This means that States must prioritise the needs of those who are most vulnerable and address discriminatory policies and practices. They must also put measures in place to ensure that children not only survive, but thrive, and reach their full capabilities by developing their mental and physical abilities, personalities and talents to the fullest extent possible.

The UNCRC also states that the 'best interests of the child' should be of primary consideration in any decisions that affect a child or group of children. This includes decisions about children's treatment options, the design and delivery of health-care services, and laws and policies that have a direct or indirect impact on children. Finally, the UNCRC calls on policymakers, parents and professionals to recognise children's evolving capacities and right to participate in decision-making, and to give their views due weight in accordance with their age and maturity.[4] For example, including children as active partners in health has been found to relieve pain and distress, improve patient outcomes and

compliance with treatment, build children's capacity to take responsibility for their own health, and enhance the design of child- and adolescent-friendly health-care services.[5] The Children's Act therefore enables children to consent to medical treatment from the age of 12, provided they understand the risks and benefits.[6]

Children's constitutional rights

Many of these rights and principles have been incorporated into the South African Constitution and are therefore legally binding in South Africa.

Most of the rights in the Constitution apply to everyone – including children. For example, we all have a right to life, dignity, equality, freedom of expression, and an environment that is not harmful to our health. But the Bill of Rights also recognises children's need for additional care and protection, and Section 28 spells out children's rights to a name and nationality; family, parental and alternative care; protection from maltreatment, abuse, neglect and degradation; health and social services; and to have their best interests considered in every matter concerning them.[7]

While everyone has a "right to have access to health-care services, sufficient food and water, social assistance and adequate housing",[8] these socio-economic rights are subject to progressive realisation and limited by the state's available resources. In contrast, section 28 guarantees children a direct and unqualified "right to basic nutrition, shelter, basic health-care services and social services"[9] (as outlined in Box 1).

The state is therefore obliged to put in place definitive measures to give effect to children's right to health. This includes adopting appropriate laws, policies and programmes; putting in place the necessary budget and resources; ensuring that the design and delivery of health care and other services puts children at the centre by considering their best interests; and making progress in improving child health outcomes across a range of indicators.[10]

Article 24 (2) of the UNCRC states that government must prioritise child health within the health plan for the general population, and the UN Committee on Economic, Social and Cultural Rights stipulates that these health goods, services and programmes should be available, accessible, acceptable and of good quality.[11] In other words:

- The facilities, goods and services for child and adolescent health should be available in sufficient quantity and continuous supply.
- These goods and services should be easy to use and accessible to all. For example, as far as possible, children and families should not have to travel long distances, incur expenses or struggle to access health information.
- Children and adolescents should be treated with care and respect and included in decisions about their own health care whenever possible.
- Children should receive the right treatment, when they need it, delivered in a caring, child-centred manner by well-capacitated health professionals.

Yet, 25 years since the adoption of the Constitution, the state has yet to define a package of basic health care for children. The national Committee on Morbidity and Mortality of

Box 1: Advocating for children's right to basic health-care services

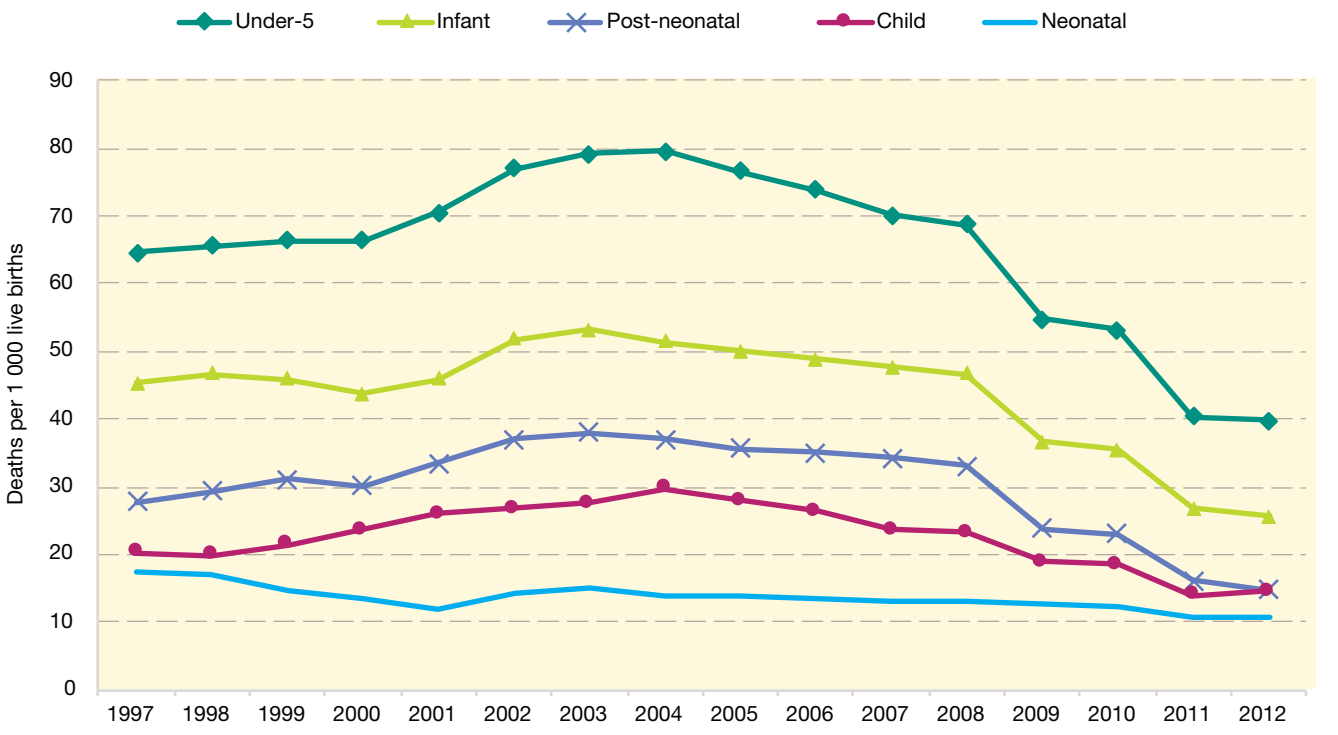
Children's constitutional rights are justiciable and can be enforced by a court of law. Advocates for child health argue that children's "right to basic health-care services" creates the same duty upon the state as the right of everyone to basic education,[12] which the Constitutional Court has ruled is "immediately realisable":

> There is no internal limitation requiring that the right be "progressively realised" within "available resources" subject to "reasonable legislative measures". The right to a basic education in section 29(1)(a) may be limited only in terms of a law of general application which is "reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom".[13]

This has enabled education rights activists such as Equal Education, SECTION27, the Legal Resources Centre and the Centre for Child Law to campaign – and successfully argue in court – for textbooks, desks, teaching staff, safe and sanitary toilets, and binding minimum norms and standards for the provision of school infrastructure in order to give concrete meaning to the right to education and to clarify the precise obligations of the State.

These same strategies could potentially be applied to ensure the realisation of children's right to basic health-care services. A necessary first step is to officially endorse a package of 'basic health-care services' for children, and to build an advocacy and investment case that demonstrates how these services will benefit children's health and prove cost effective. Such a case should also draw on the international law – such as the UNCRC and ICESCR – which should guide both the state and the Courts' interpretation of basic health-care services for children in South Africa.

Figure 3: Trends in age-specific mortality rates for children under-five, 1997 – 2012



Source: Nannan N, Groenewald P, Pillay-van Wyk V, Nicol E, Msemburi W, Dorrington RE & Bradshaw D (2019) Child mortality trends and causes of death in South Africa, 1997 – 2012, and the importance of a national burden of disease study. *South African Medical Journal*, 109(7): 480-485.

Children Under-Five has repeatedly called on the state to fast track the development of an Essential Package of Care for Children,[14] including norms and standards for staff, physical infrastructure, equipment and consumables; together with clear targets in order to strengthen the health-care system and ensure that child health services are adequately resourced.

It is also clear (as outlined later in this chapter) that children still do not yet have equitable access to an acceptable quality of primary level services, and inequity of access escalates with hospital and specialised health care. It is therefore particularly pressing to ensure that children's needs are factored into the package of benefits that will be offered under the proposed National Health Insurance system (see page 16 in legislative developments).

The following sections reflect on the extent to which South Africa is realising children's rights both within and outside the health-care system, by reflecting on the current status of child and adolescent health in South Africa, evaluating recent progress in the delivery of child and adolescent health services, and considering the impact of the broader social and environmental determinants of child and adolescent health.

What is the current status of child health in South Africa?

While child and adolescent mortality has decreased significantly over the last decade, too many children and adolescents continue to die from preventable causes. There has been no change in the prevalence of stunting (a sign of chronic malnutrition), which affects one in four young children.[15] HIV prevalence continues to affect one in four pregnant women and violence against children remains pervasive, highlighting the need for greater investment in prevention to ensure that children not only survive, but thrive.

Child survival: Progress and gaps

Under-five mortality is an important measure of child health. It is also an index of a society's health and development, as child survival is dependent on a healthy and safe environment, adequate care, nutrition, protection from violence and access to health-care services. The Sustainable Development Goals (SDGs) therefore aim to galvanise efforts to end preventable deaths among young children and set targets to reduce the under-five mortality rate (U5MR) to no more than 25 deaths

Table 1: Child mortality indicators, rapid mortality surveillance, 2012 – 2017

INDICATOR	2012	2013	2014	2015	2016	2017	Target 2030
Under-five mortality rate (deaths per 1,000 live births)	41	41	40	37	34	32	25
Infant mortality rate(deaths per 1,000 live births)	27	28	28	27	25	23	-
Neonatal mortality rate (deaths per 1,000 live births)	12	11	12	12	12	12	12

Source: Dorrington RE, Bradshaw D, Laubscher R & Nannan, N (2019) *Rapid Mortality Surveillance Report 2017*. Cape Town: South African Medical Research Council.

per 1,000 live births and neonatal mortality to no more than 12 deaths per 1,000 live births by 2030.[vii]

Despite interest in monitoring progress towards the SDGs, and relatively reliable sources of child mortality data at national level, it has proved difficult to disaggregate this data at sub-national level or determine reliable estimates of cause of death. The second National Burden of Disease Study has therefore adjusted vital registration data[viii] to derive reliable estimates of the trends and causes of mortality amongst both young and older children[16].

Notwithstanding the data challenges, Figure 5 illustrates progress in reducing U5MR across all provinces. Not only has the surge in deaths due to the HIV epidemic been reduced, but under-five deaths are significantly lower than the pre-HIV era, suggesting that there has been improvement in other aspects of child health as well.

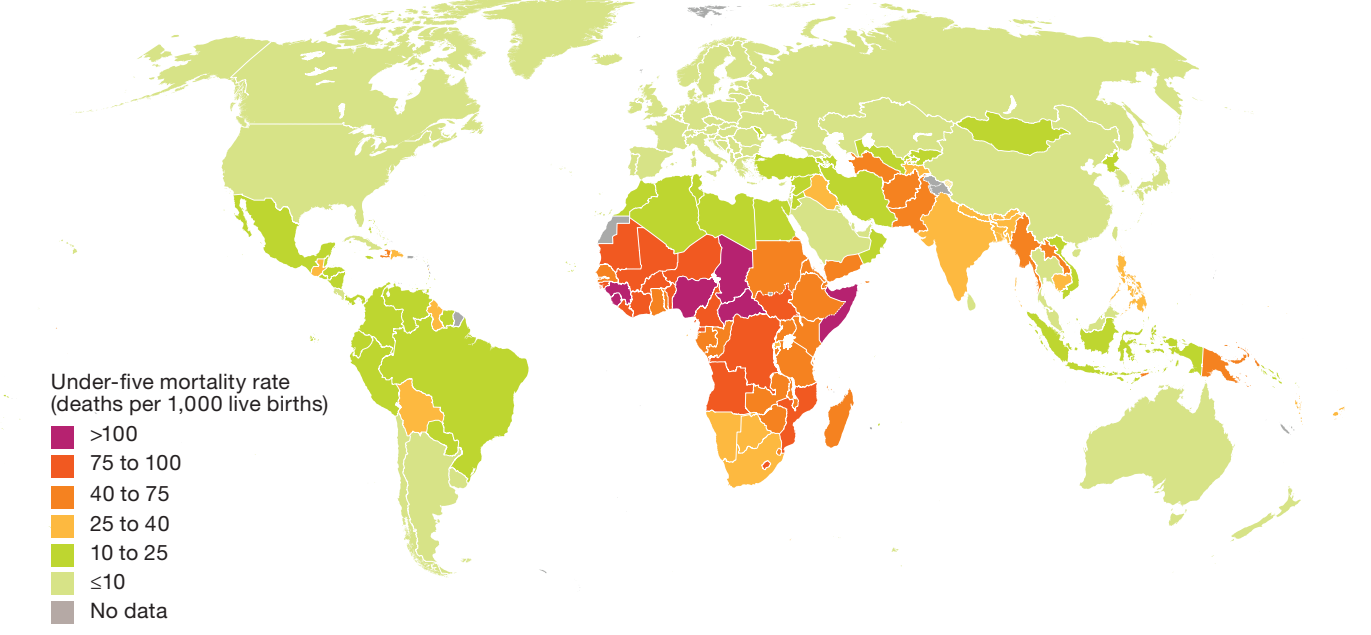
Trends in under-five mortality

Under-five mortality increased between 1997 and 2004 from 65 to 79 deaths per 1,000 births, before dropping steeply to 40 deaths per 1,000 births in 2012 (as illustrated in Figure 3). More recent estimates from the Rapid Mortality Surveillance Report in Table 1 document a further decline to 32 deaths per 1,000 live births in 2017. [17] Yet despite this progress, an estimated 15,965 young children died before their fifth birthday in 2017,[18] about 44 children a day, from mainly preventable causes. The mortality risk is highest in the first month of life, and neonatal mortality rates have remained stubbornly fixed at 12 deaths per 1,000 live births.

Global and provincial inequalities

The SDGs call on states to intensify efforts to reduce inequalities and ensure that no child is left behind. Yet

Figure 4: Children in sub-Saharan Africa face higher risks of dying before their fifth birthday

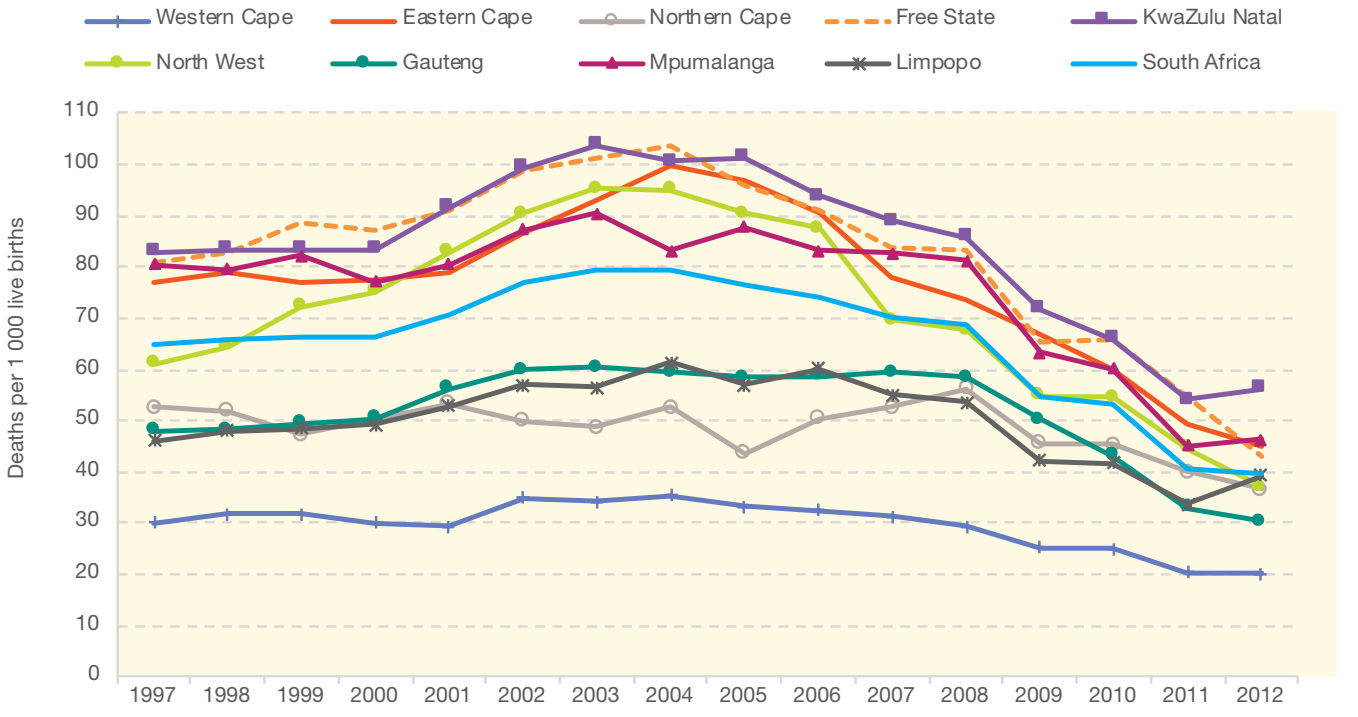


Source: United Nation's Children Fund. (2019) *Levels and trends in child mortality: Report 2019. Estimates developed by the UN Inter-agency Group for child mortality estimation*. New York: UNICEF.

vii Under-five mortality refers to the probability of a child dying before their fifth birthday, while neonatal mortality refers to the probability of infant dying in the first 28 days of life.

viii Vital registration of births and deaths is not yet complete and there is extensive misclassification of HIV/AIDS deaths and other quality concerns.

Figure 5: Trends in under-five mortality rates, by province, 1997 – 2012



Adapted from: Nannan N, Groenewald P, Pillay-van Wyk V, Nicol E, Msemburi W, Dorrington RE & Bradshaw D (2019) Child mortality trends and causes of death in South Africa, 1997 - 2012, and the importance of a national burden of disease study. *South African Medical Journal*, 109(7): 480-485.

inequities in child mortality persist both within and between countries. Children living in sub-Saharan Africa remain hardest hit, as illustrated in Figure 4. In 2018 the average under-five mortality rate in Africa was 78 deaths per 1,000 live births, 16 times higher than the average rate in high-income countries (5 deaths per 1,000 live births).

Yet, despite South Africa being one of the best performing countries in Africa economically-speaking, our under-five mortality rate lags behind similar middle-income countries such as Brazil (14) and Cuba (5),[19] as well as some lower-income countries.

This is most likely explained by inadequate attention to preventable child health conditions and the failure to adequately address the social determinants of child health, including economic factors such as persistently high levels of poverty and unemployment, and political factors such as lack of accountability for the Constitutional mandate on child health.

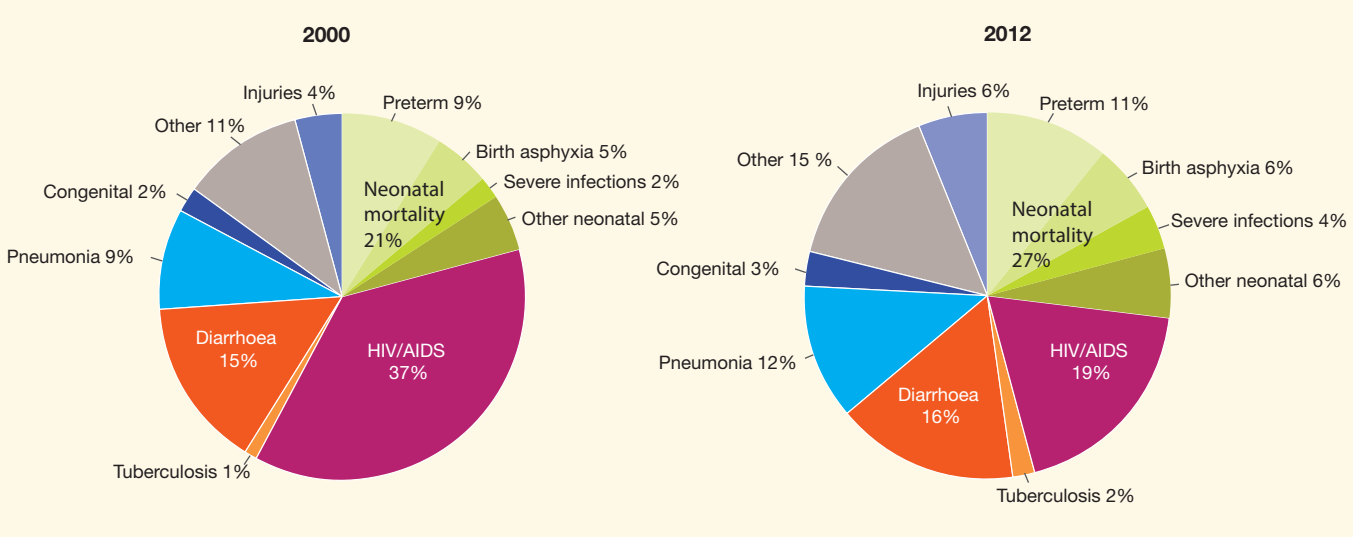
South Africa is further characterised by significant inequities between and within provinces. Figure 5 illustrates marked differences between the more rural provinces of KwaZulu-Natal, Free State, Mpumalanga and Eastern Cape, which had the highest U5MR at the beginning of the period, and the Western Cape, which had the lowest mortality rate. While these inequities have narrowed significantly over the 15-year period, young children in KwaZulu-Natal (with an U5MR of 56/1,000) are nearly three times more likely to die before their fifth birthday than those in the Western Cape (where U5MR is 20/1000). Yet data from the Western Cape suggest that while mortality has declined, inequities in U5MR between rural and urban districts have widened over time.[ix] Greater efforts are therefore needed to improve children's living conditions and access to health-care services, with greater focus on those most in need, in order to close the gap between provinces.

An analysis of the 1998 South Africa Demographic Health Survey highlighted stark racial and income inequities, with African[x] children four times more likely to die before their fifth birthday than White counterparts, and children living in the poorest 20% of households four times more likely to die than their counterparts who live in the richest households.[20]

ix U5MR in the Cape Metro decreased from 575 deaths per 1,000 live births in 2009 to 410/1,000 in 2015, while U5MR in the Central Karoo declined more slowly from 769/1,000 to 644/1,000 over the same period. Data from forthcoming Western Cape Burden of Disease Study and the Health Impact Assessment Directorate, Western Cape Government: Health.

x It is widely understood that race is a social construct, yet the racial classifications introduced under apartheid continue to be used in post-apartheid South Africa, ostensibly to monitor and support the reversal of inherited racial inequalities. The household surveys conducted by Statistics South Africa still include the apartheid-era racial classifications of "African", "Coloured", "Indian/Asian" and "White", and every individual is assigned to one of these groups.

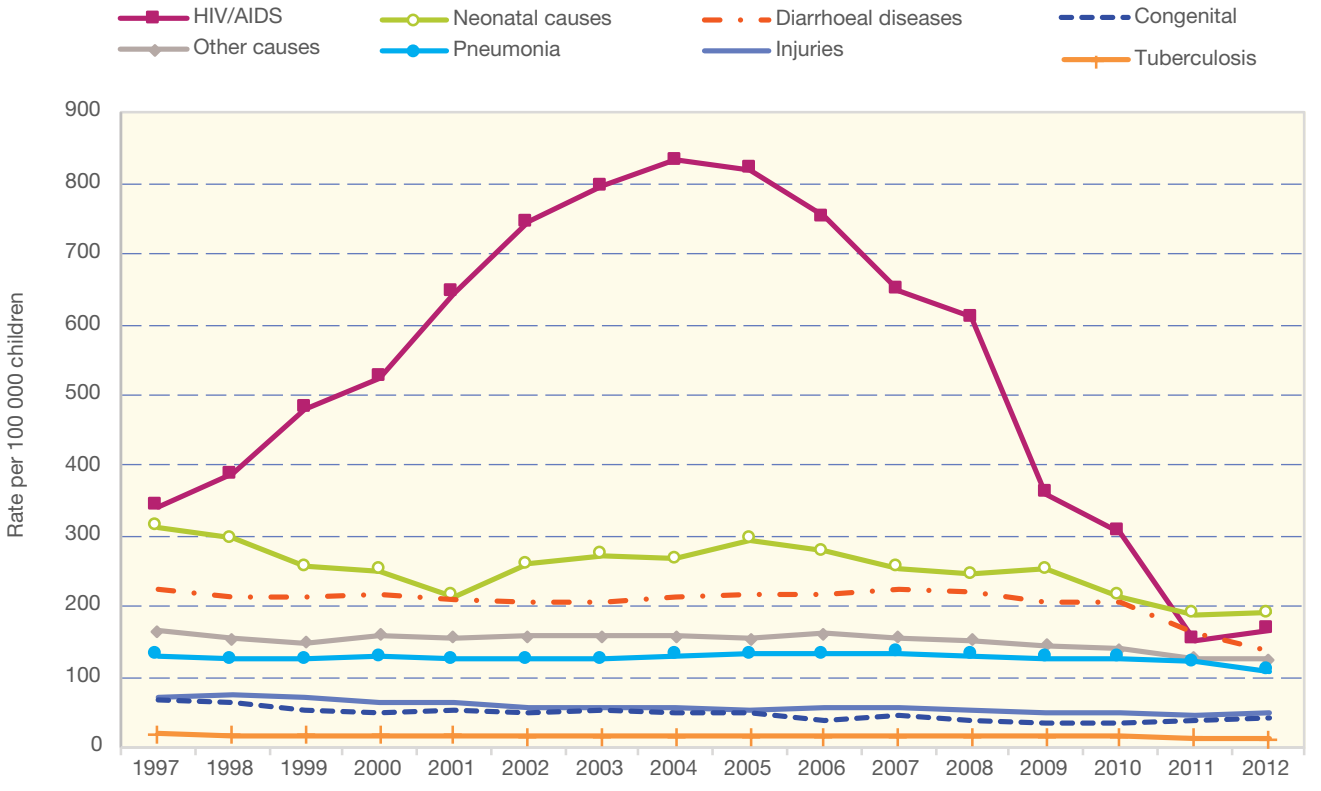
Figure 6: Causes of death in children under-five in South Africa, 2000 & 2012



Source: Nannan N, Groenewald P, Pillay-van Wyk V, Nicol E, Msemburi W, Dorrington RE & Bradshaw D (2019) Child mortality trends and causes of death in South Africa, 1997 – 2012, and the importance of a national burden of disease study. *South African Medical Journal*, 109(7): 480-485.

We are currently waiting for an updated analysis of the 2016 survey to establish whether these inequities have narrowed or deepened over time.Inequities also exist within provinces, although these are often hidden when data are aggregated to a provincial level. In particular, the increasing levels of deprivation in poor urban populations in large cities is of concern and this calls for the routine disaggregation of data to smaller geographic units, to identify pockets of deprivation.

Figure 7: Cause specific deaths rates in young children under-five, 1997 – 2012

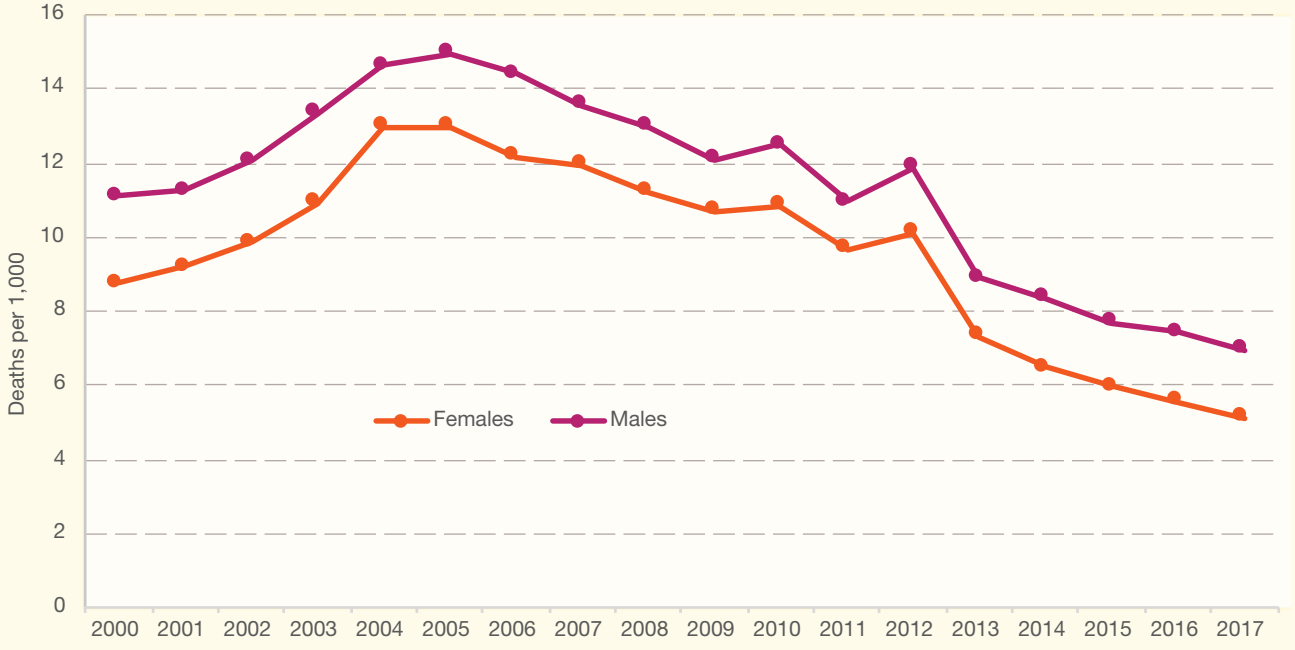


Source: Nannan N, Groenewald P, Pillay-van Wyk V, Nicol E, Msemburi W, Dorrington RE & Bradshaw D (2019) Child mortality trends and causes of death in South Africa, 1997 – 2012, and the importance of a national burden of disease study. *South African Medical Journal*, 109(7): 480-485.

Box 2: Mortality trends and causes of death in older children and adolescents

The Rapid Mortality Surveillance system uses the probability of a five-year-old dying before reaching their 15th birthday as an indicator to track mortality amongst older children in South Africa. Figure 8 illustrates how mortality peaked in 2004 and then declined, with boys more likely to die than girls before their 15th birthday.

Figure 8: Estimate of the probability of a five-year-old dying before age 15, males and females, 2000 – 2016



Source: Dorrington RE, Bradshaw D, Laubscher R & Nannan, N (2019) *Rapid Mortality Surveillance Report 2017*. Cape Town: South African Medical Research Council.

The 2012 Burden of Disease study indicates that HIV/AIDS was the leading cause of death in older children aged 5 – 19, except for adolescent boys aged 15 – 19, where interpersonal violence accounted for one in three deaths, followed by road traffic injuries, HIV/AIDS and self-inflicted injuries (Figure 9). Disaggregating data by age makes it clear that injuries become more prominent as children grow older. The total injury burden for older boys increases dramatically during the teenage years accounting for 60% of deaths amongst boys aged 15 – 19, with a smaller, yet significant, increase in the proportion of injury deaths amongst teenage girls.

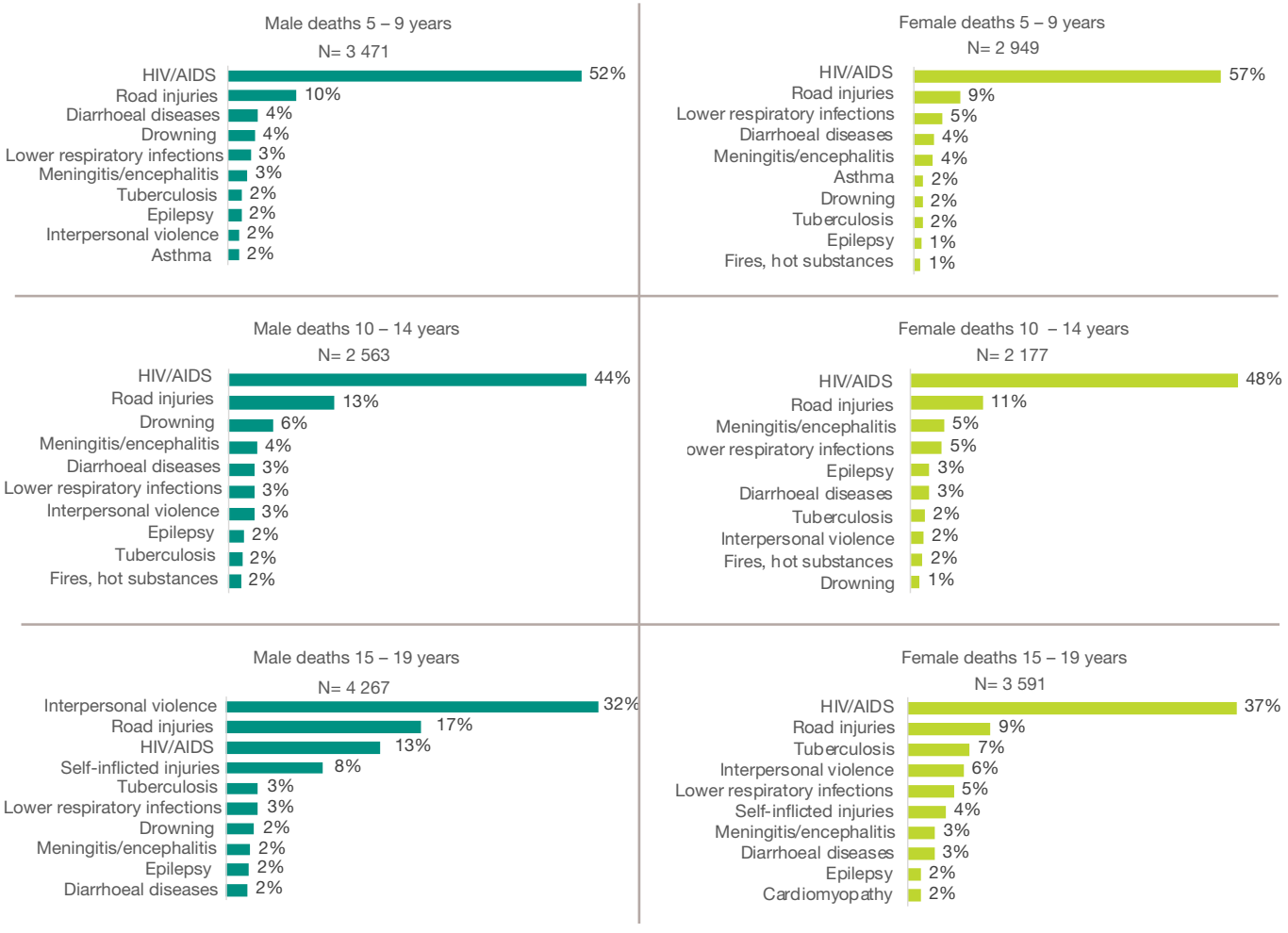
Cause of death profile

Most of these young child deaths are preventable. Figures 6 and 7 illustrate how the increase in under-five mortality in the early 2000s was accompanied by an increase in the proportion of HIV/AIDS deaths, which accounted for nearly half of under-five deaths by 2005. This decreased sharply to 19% of deaths in 2012, following the rollout of the prevention of mother-to-child transmission (PMTCT) programme. It still means that despite the availability of antiretroviral therapy, one in five children who die, do so as a result of HIV and AIDS-related complications.

Figure 8 illustrates how, as the proportion of HIV deaths declined from 2000 to 2012, neonatal causes accounted for a growing proportion of deaths amongst young children. By 2012, neonatal conditions were the leading cause of under-five mortality and the main contributors were prematurity, birth asphyxia and severe infections. Pneumonia and diarrhoea continue to be key drivers of under-five mortality, although these deaths started to decline following the introduction of the rotavirus and pneumococcal vaccines in 2010. Injury deaths accounted for a small, but increasing, share of deaths amongst young children over this 12-year period at 6% of under-five mortality and 10% of deaths amongst young children aged one to four years.

The profound impact of introducing, and adequately implementing, important preventative health service

Figure 9: Leading causes of death in older children and adolescents, 2012



Adapted from: Msemburi W, Pillay-van Wyk V, Dorrington RE, Neethling I, Nannan N, Groenewald P, Laubscher R, Joubert J,Matzopoulos R, Nicol E, Nojilana B, Prinsloo M, Sithole N, Somdyala N & Bradshaw D (2016) *Second National Burden of Disease Study for South Africa: Cause-of-death profile for South Africa, 1997 – 2012.* Cape Town: South Africa Medical Research Council.

interventions to improve child health is illustrated in the cause-specific mortality graph in Figure 9. It shows the significant decline in HIV-related mortality following the widespread implementation of the PMTCT programme. It also shows the small, but significant decline in diarrhoeal deaths between 2010 and 2012, following the introduction of the rotavirus vaccine. Similar efforts are required for other preventable causes of death. However, as illustrated earlier, it requires sustained investment beyond these health service measures to ensure that children thrive and attain optimal development.

While efforts to promote child-survival have traditionally focused on young children, the World Health Organization (WHO) has recently highlighted the importance of monitoring the mortality of older children and adolescents, as their deaths are also largely preventable.[21] Box 2 outlines recent trends and causes of death in older children and adolescents in South Africa.

Most of these deaths are preventable and improvements in the quality of health-care services and children's living circumstances (such as access to a reliable, easily accessible source of water in the case of diarrhoeal disease) need urgent attention.

Whilst mortality rates may be in decline and we are keeping more of our children alive, greater attention needs to be paid to child morbidity – to prevent illness and injury and promote optimal health, growth and development – including key challenges such as malnutrition, HIV, violence and mental health conditions.

Acknowledgement: The National Burden of Disease Study was partly funded by the South African Medical Research Council's Flagships Awards Project (SAMRC-RFA-IFSP_01-2013/SA CRA 2).

Child nutrition

Child nutrition is a major driver of child mortality and morbidity in South Africa. This includes a substantial burden of undernutrition, and a rapidly growing epidemic of obesity, driven by over consumption of sugary drinks and ultra-processed foods, and reduced physical activity.

Undernutrition remains a key driver of under-five mortality with a quarter of hospital deaths associated with severe acute malnutrition and another quarter associated with moderate acute malnutrition.[22] Table 2, illustrates a decline in wasting and underweight, yet stunting rates have remained stubbornly high, affecting more than one in four children (27%) under five.[23] Similarly, persistently high levels of low birth weight (13%)[24] may indicate poor maternal nutrition which contributes to children becoming stunted early in life.

Stunting is an indicator of chronic malnutrition. While poor maternal nutrition is a key contributor, prevalence increases between eight and 23 months as children shift to complementary feeding and become increasingly mobile and exposed to infection.[25] Stunting has been described as a "deadweight on the South African economy"[26] as it compromises children's cognitive development, education and employment prospects, and increases their risk of overweight and obesity. This has been found to be the case especially in urban settings, where there is a shift from traditional to Westernised diets, characterised by a decrease in fibre and an increase in fat and added sugar.[27]

Table 2: Indicators of children's nutritional status, 2005 & 2016

	NFCS-FB 2005 Children 1 – 9 years	SADHS 2016 Children under five years
Wasting[i]	4.5%	2.5%
Under-weight[ii]	9.3%	6%
Stunting[iii]	23.4% (1 – 3 years)	27%
Overweight[iv],[v]	10.6%	13.3%

Sources: NFCS-FB: National Food Consumption Survey-Fortification Baseline 2005; SADHS: South Africa Demographic Health Survey 2016.

i Wasting is determined by measuring the child's weight-for-height and a child is considered to have acute malnutrition when the weight-for-height is below two standard deviations (-2SD) of the median of the reference population.

ii Underweight is determined by measuring the child's weight-for-age and a child is considered to be underweight, indicating acute or chronic malnutrition, when the weight-for-age is below two standard deviations (-2SD) of the median of the reference population.

iii Stunting is determined by measuring height-for-age, and a child whose height-for-age is below two standard deviations (-2 SD) of the median of the reference population is considered stunted. This could indicate chronic malnutrition, but there are other reasons for a child being short for their age.

iv In the NFCS-FB study, children were classified as overweight based on a body mass index (BMI) greater than 25 kg/m^2

v In the SADHS, children under five years were considered overweight if their weight-for-height Z-score was more than two standard deviations (+2 SD) above the median of the reference population.

Breastfeeding offers optimal nutrition and protection from infection. Yet despite improvements, exclusive breastfeeding rates remain low at 32%, and only 23% of children aged six – 23 months receive a minimum acceptable diet.[28]

A high proportion of children consume unhealthy diets containing sugary foods (35%) and drinks (18%), and salty snacks (44%).[29] It is therefore not surprising that childhood overweight and obesity are also increasing, starting early in childhood, increasing with age, and fuelling a growing burden of non-communicable diseases in adulthood. The National Food Consumption Survey of 2005 found that 11% of children were overweight and a further 4% were obese.[30] The 2016 Demographic Health Survey found that 11% of adolescent males and 40% of females (15 – 24 years of age) were overweight or obese.[31] Rising obesity continues into adulthood, with 19 million obese or overweight adults, making South African one of the countries with the highest prevalence of obesity.[32] Whilst the introduction of a sugar tax is a good start, urgent efforts are needed to regulate the availability and marketing of unhealthy food to children and ensure optimal maternal and early childhood nutrition. It requires large-scale efforts and engagement with important sectors such as trade and industry to consider child and future adult health in food production, marketing and trade policies.

Nutrition is a quintessential example of how child health is primarily influenced by social, economic and environmental determinants outside the health sector, and the influence of the health-care sector on child nutrition is small by comparison. Addressing child nutrition is one example where a 'whole of society approach' is needed – without which, current child malnutrition challenges will remain.

HIV

South Africa has the largest HIV epidemic and treatment programme in the world, with an estimated 7.9 million people living with HIV in 2017, of whom 4.4 million are on antiretroviral treatment (see Table 3).[33] Although the total number of new HIV infections has declined by 44% since 2012, young adults (15 – 24 years) continue to be at higher risk,[34] accounting for over a third (38%) of all new infections in 2017. HIV incidence (meaning the rate of new infections each year) is highest among young women (15 – 24) who were three times more likely to become infected than young men, with an estimated 66,000 new infections in young women compared to 22,000 in young men in 2017.[35]

Table 3: Incidence, prevalence, treatment and prevention of HIV

	Baseline	Most recent
People living with HIV	5,2 million¥	7,9 million*
Total number of HIV infections <15	310,000§	260,000§
Number of new infections <15	42,000§	14,000§
HIV incidence		
Children <15	0.33%€	0.09%€
Youth 15 – 24	2.3%£	1.00%*
HIV prevalence		
Children <15	2.5%¥	2.7%*
Youth 15 – 24	8.7%¥	7.9%*
Prevention of mother-to-child transmission		
HIV prevalence in pregnant women (15 – 49)	29.3% Ω	28.4% Ω
HIV prevalence in pregnant women (15 – 24)	21.7 Ω	19.7 Ω
HIV-positive pregnant women on ART	65%§	87%§
Mother-to-child transmission	17.3%€	5%€
HIV-exposed uninfected children < 15	11.8%#	20.5%#
Access to antiretroviral treatment		
Total ART coverage	23%§	62%§
ART coverage <15	32%§	63%§

Sources:
¥ Shisana O, Rehle T, Simbayi LC, Zuma K, Jooste S, Pillay-Van Wyk V, Mbelle N, Van Zyl J, Parker W, Zungu NP, Pezi S & the SABSSM III Implementation Team (2009) *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey 2008: A turning tide among teenagers?* Cape Town: HSRC Press.
* Simbayi LC, Zuma K, Zungu N, Moyo S, Marinda E, Jooste S, Mabaso M, Ramlagan S, North A, van Zyl J, Mohlabane N, Dietrich C, Naidoo I and the SABSSM V Team (2019) *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2017.* Cape Town: HSRC Press
§ UNAIDS. AIDS info. https://aidsinfo.unaids.org/
€ Thembisa Model. Viewed 10 October 2019: https://www.thembisa.org/downloads.
£ Rehle T, Johnson L, Hallett T, Mahy M, Kim A, Odido H, Onoya D, Jooste S, Shisana O, Puren A & Parekh B (2015) A comparison of South African National HIV Incidence Estimates: A critical appraisal of different methods. *PLoS ONE,* 10(7): e0133255.
Slogrove AL, Powis KM, Johnson LF, Stover J & Mahy M (in press). Estimates of the global population of children HIV-exposed and uninfected, 2000-2018: A modelling study. *Lancet Global Health.*
Ω Woldesenbet SA, Kufa T, Lombard C, Manda S, Ayalew K, Cheyip M & Puren A (2019) *The 2017 National Antenatal Sentinel HIV Survey, South Africa.* Pretoria: DoH.

HIV prevalence (meaning existing infections in the population) is also higher amongst adolescent girls and young women (15.6%), who account for three-quarters of 20 – 24-year-olds living with HIV – with only 4.8% of young men HIV positive in 2017.[36] HIV prevalence increases with age: 28% of pregnant women (15 – 49) are HIV positive, with little or no change since 2005.[37]

The national drive to eliminate mother-to-child transmission of HIV continues to yield results. The number of new HIV infections in children (under 15 years) in South Africa has declined from 42,000 in 2008 to 14,000 in 2018, driven primarily by the successful rollout of the prevention of mother-to-child treatment programme.[38] An estimated 87% of pregnant women now receive antiretroviral treatment (ART) up from 65% in 2010,[39] and vertical HIV transmission at 10 weeks dropped to 0.9% in 2017/18.[40] This is a key driver of the decline in under-five mortality.

Despite an increase in access to ART across all age groups since 2010, coverage remains below national targets. Greater efforts are needed to strengthen the 90-90-90 cascade[xi] and ensure that people living with HIV are tested, on treatment and virally suppressed. Men are less likely to be tested or on treatment than women, and young people are lagging behind. Only 32% of HIV-positive young women (15 – 24),[41] and only 38% of HIV-infected children (<15 years),[42] were virally suppressed in 2017.

While vertical transmission at 10 weeks is now less than 1% and a large proportion of infants are uninfected, these infants are still exposed to HIV and antiretroviral drugs.[43] They are more likely to be born prematurely or with low birth weight, and experience severe infections compared to infants not exposed to HIV.[44] This raises concerns about the long-term health and development of 3.4 million children exposed to HIV,[45] and requires urgent investment in prevention programmes to address the drivers of HIV infection among young women and adolescent girls.

Violence

Violence against children and adolescents is pervasive in South Africa – with 1,019 murders and 24,387 sexual offences against children reported in 2017/18.[46] The Birth to Twenty Plus cohort study found that 99% of children in Soweto-Johannesburg had either experienced or witnessed some form of violence, with more than 40% of children reporting multiple exposures to violence in their homes, schools and communities.[47]

xi An ambitious target to end the HIV epidemic: By 2020, 90% of all people living with HIV will know their HIV status; 90% of all people diagnosed with HIV will receive antiretroviral therapy (ART); and 90% of all people receiving ART will be virally suppressed.

Chapter 6 highlights how much of the violence has its roots in early childhood, where poverty, family conflict and substance abuse undermine families' capacity to care for young children, and spill over into domestic violence or harsh physical punishment. These early experiences have long-lasting adverse effects on children's mental health - increasing the risk of depression, anxiety, post-traumatic stress disorder, and aggressive and antisocial behaviour. Girls are at increased risk of sexual assault and intimate partner violence, and boys are more likely to become perpetrators of violence in their communities and intimate relationships,[48] with both men and women more likely to use harsh punishment with their own children. These patterns are perpetuated by a society that condones the use of violence to assert masculinity and 'discipline' women and children.[49]

Mental health

Prevalence data is limited in South Africa, yet the mental health of children and adolescents is a growing concern, as 50% of mental health problems are established by the age of 14 years and 75% by the age of 24 years.[50] Globally, it is estimated that 10 – 20% of adolescents experience mental health conditions such as depression, anxiety and alcohol use disorders, [51] while suicide is the third leading cause of death in older adolescents (15 – 19 years old). Given the high levels of poverty and violence in South Africa, it is therefore not surprising that nearly one in three mothers experience postnatal depression,[52] and one in three South Africans suffer from a mental disorder in their lifetime.[53] Yet chapter 7 indicates a significant gap between the burden of disease and the provision of child and adolescent mental health services.

Are children able to access quality health care?

The state has put in place a range of laws, policies and programmes to give effect to children's right to health care services, yet the high burden of child morbidity and mortality suggests that more work is needed to translate policy into practice, and ensure children are able to access quality health care close to home.

Coverage of essential health interventions across the continuum of care

Figure 10 draws on an initial analysis in the 2008 Every Death Counts report[54] and indicators from Countdown to 2030,[55] in order to track the coverage of essential interventions to improve women's, children's and adolescent's health over a 10 – 15-year period. Many of these interventions have a strong focus on child survival – and a broader set of indicators will be needed to help track and drive progress towards a thrive agenda. For example, we do not have national data on the nature and extent of child and adolescent mental health conditions. Similarly, we need to develop indicators to track the impact of critical interventions such as developmental screening, growth monitoring, early stimulation and responsive caregiving, in order to make visible these currently hidden dimensions of child health. For example, efforts are currently underway to introduce an Early Learning Outcomes Measure[xii] to assess whether young children are developmentally "on track" for age across of number of domains, and a preliminary study found that only 29% of children were developmentally on track.[56]

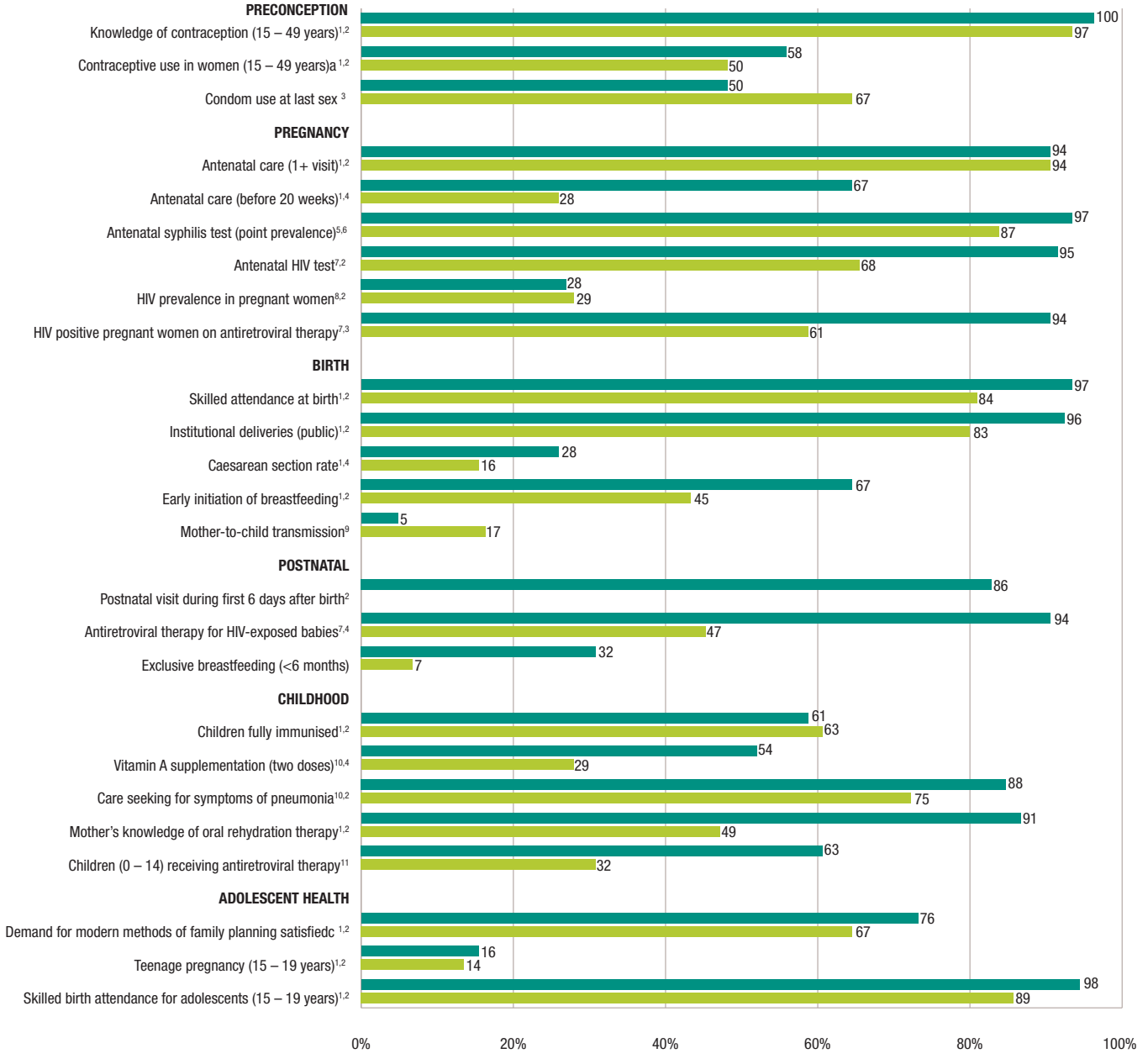
Figure 10 illustrates how South Africa has made significant improvements in the coverage of key interventions across a continuum of care – from pre-conception through to adolescence. This includes significant gains in access to antiretroviral treatment and a corresponding decline in mother-to-child transmission of HIV, as well as improvements in early antenatal care, skilled birth attendance, early initiation of breastfeeding and vitamin A coverage.

Yet despite important progress, coverage of certain key preventative services remains low and varies significantly between provinces and districts. This suggests that child health has not yet been given sufficient priority in the planning and delivery of health services at national, provincial and district level. For example, immunisation is one of the most effective interventions to protect children against potentially life-threatening illnesses such as tuberculosis, polio, hepatitis and measles. The regular schedule of immunisations also provides a hook for other interventions such as growth monitoring, vitamin A supplements, developmental screening, and prophylaxis for babies born to HIV-positive mothers. Immunisation coverage is a therefore a useful proxy for young children's access primary health-care services.

Yet only 61% of infants were reported fully immunised in 2016.[57] District Health Information System data reports higher levels of coverage at 77% in 2018,[58] yet this is still far below the national target of 87% and not sufficient to ensure herd immunity. Significant variation between provinces – from 90% in Mpumalanga to 69% in the Eastern Cape – points to persistent inequities in access and coverage, while Figure 11 points to even more fine-grained inequalities at sub-district level.[59]

xii ELOM includes measures of young children's gross motor development, fine motor control and visual motor integration, emergent numeracy and mathematics, literacy and language, and cognitive and executive function.

Figure 10: Tracking improvements in coverage of essential health interventions across the continuum of care



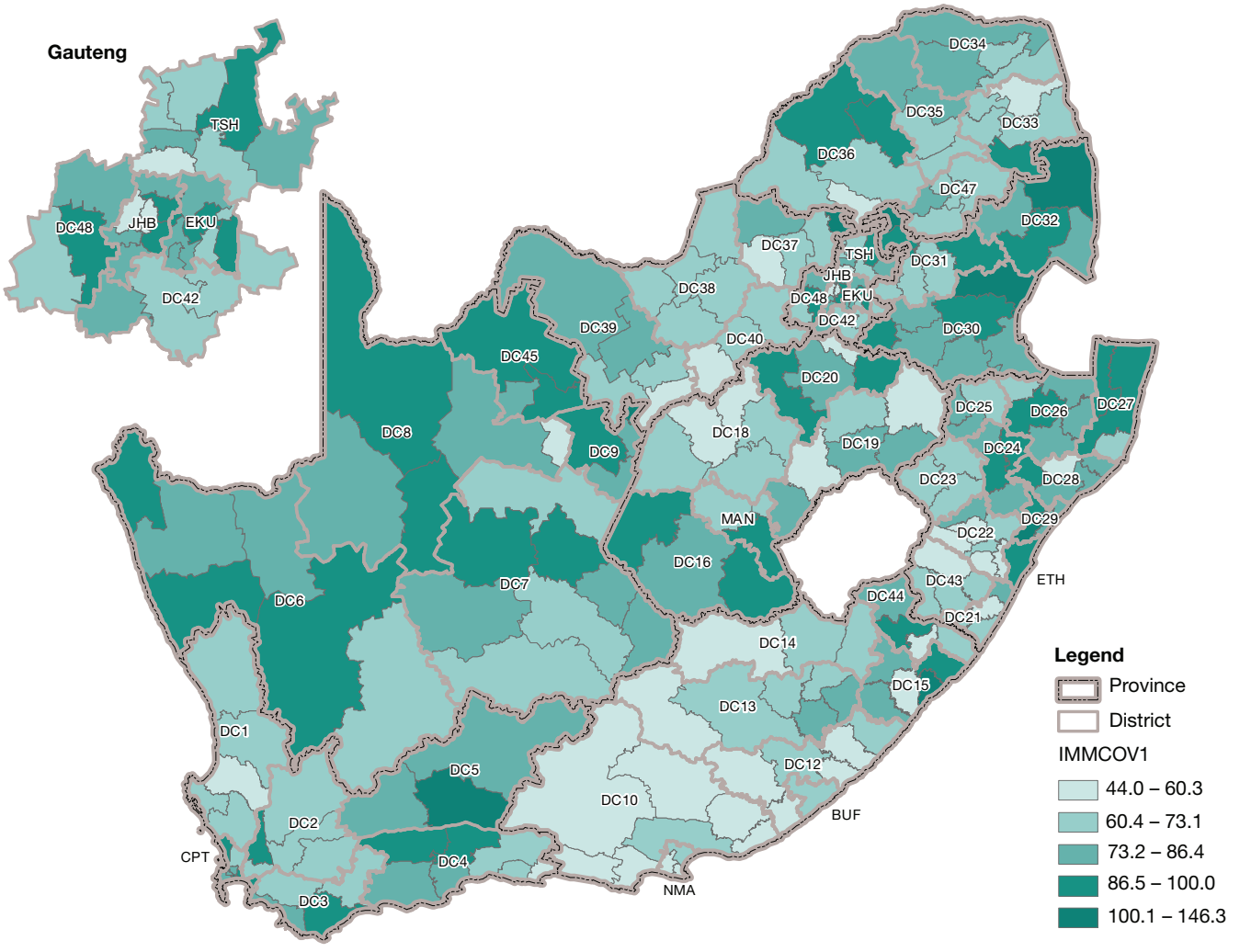
Sources:

1 Department of Health, Medical Research Council & Measure DHS (2002) *South Africa Demographic & Health Survey 1998*. Calverton, MD: Measure DHS.
2 Department of Health, Statistics South Africa, South African Medical Research Council and ICF (2017) *South Africa Demographic and Health Survey 2016: Key Indicators*. Pretoria and Rockville, Maryland: DOH, Stats SA, SAMRC & ICF.
3 Shisana O, Rehle T, Simbayi LC, Zuma K, Jooste S, Pillay-Van Wyk V, Mbelle N, Van Zyl J, Parker W, Zungu NP, Pezi S & the SABSSM III Implementation Team (2009) *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey 2008: A turning tide among teenagers?* Cape Town: HSRC Press.
4 Simbayi LC, Zuma K, Zungu N, Moyo S, Marinda E, Jooste S, Mabaso M, Ramlagan S, North A, van Zyl J, Mohlabane N, Dietrich C, Naidoo I and the SABSSM V Team (2019) *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2017*. Cape Town: HSRC Press
5 Massyn N, Pillay Y & Padarath A (2019) *District Health Barometer 2017/18*. Durban: Health Systems Trust.
6 Pattinson RC, Etsane E, Snyman JS, Bezuidenhout C, Sutton V, Ferreria V, Bergh AP, Makin JD (2007) *Report to UNICEF on the scaling-up of the basic antenatal care quality improvement programme in two sub-districts per province in South-Africa (draft)*. Pretoria: Medical Research Council & University of Pretoria.
7 Department of Health (2017) *The 2015 National Antenatal Sentinel HIV & Syphilis Prevalence Survey*. Pretoria: DoH.
8 Barron P, Day C & Monticelli F (2007) *The District Health Barometer 2005/06*. Durban: Health Systems Trust.
9 Department of Health (2009) *The 2008 National Antenatal Sentinel HIV & Syphilis Prevalence Survey*. Pretoria: DoH.
10 Thembisa Model estimates 2008 & 2016. Viewed 10 October 2019: https://www.thembisa.org/downloads.
11 UNICEF (2008) *State of the World's Children*. New York: UNICEF.
12 UNAIDS (2019) UNAIDS estimates 2008 & 2016. AIDS info. Viewed 10 October 2019: https://aidsinfo.unaids.org/.

Notes:

a. Contraceptive use in married and sexually active unmarried women (15 – 49 years)
b. Condom use at last sex in women (15 – 24 years with two or more partners in the last year)
c. Demand for modern methods of family planning satisfied (sexually active women 19 – 24 years)

Figure 11: Immunisation coverage under one year, by local municipality, sub-district, 2017/18



Source: Massyn N, Pillay Y & Padarath A (eds) (2019) *District Health Barometer 2017/18*. Durban: Health Systems Trust.

While 94% of pregnant women attended one antenatal visit in 2016,[60] only 67% received antenatal care in the first 20 weeks.[61] Further efforts are needed to improve early access to antenatal care, as this enables health professionals to identify and respond proactively to risks such as hypertension, diabetes and HIV. Delivery at a health facility, in hygienic conditions with a skilled birth attendant, reduces the risk of complications and infection during labour and delivery, while timely postnatal care is essential to identify and respond to complications as most neonatal deaths occur within the first week of life. While 96% of women gave birth in a health care facility in 2016, only 70% received postnatal care within two days of birth; and we are failing to capitalise on gains such as early initiation of breastfeeding, with only 32% of babies exclusively breastfed in the first six months.[62]

Boxes 3 and 4 illustrate similar patterns in adolescent health and neonatal care. Greater efforts are therefore needed to tackle some of the broader systemic problems that undermine access to and quality of care, in order close these gaps and optimise child and adolescent health.

Access

Since 1994, South Africa has invested in strengthening and expanding primary health care services, and 90% of South Africans now live within five kilometres of a health facility.[63] Yet despite these gains, 20% of children still travel more than 30 minutes to reach a health care facility,[64] and transport costs and road safety concerns continue to cause life-threatening delays in accessing treatment.[65] Similarly, the National Health Act[66] introduced free health-care services for pregnant and breastfeeding women and children under-six.[xiii] This was later

xiii Except those who are members or beneficiaries of medical aid schemes

Box 3: Closing the gaps in neonatal care

Natasha R Rhoda[i] and Shuaib Kauchali[ii]

South Africa made good strides in reducing neonatal mortality in the 1990s, yet progress has been slow since the early 2000s as illustrated in Figure 3.[67] There has been little change since 2000 with an estimated neonatal mortality rate (NMR) of 12 in 2017.[68] Despite these challenges, improvements in facility-based newborn care have increased the survival of babies with a birth weight of more than 1kg and reduced mortality during the first week of life (early neonatal mortality). Moving forward it is important to build on this foundation and intensify efforts to improve antenatal, obstetric and neonatal care.

The neonatal burden of disease in South Africa follows the global pattern of neonatal deaths, with preterm birth complications (49.2%) as the leading cause of death, followed by birth complications (28%), congenital abnormalities (9%) and infections (8.1%).[69] Amongst the premature deaths, the very low birth weight (<1.5kg) babies have the highest NMR at 299 per 1,000 live births[70] and 85% of them die within the first week of life.

Improving neonatal survival requires a continuum of care. This starts with early antenatal booking (up to eight dedicated visits), treatment to prevent mother-to-child transmission of HIV, and the provision of antenatal steroids for imminent preterm labour. During the postnatal phase, the highest risk of dying is in the first 24 hours of life, so the presence of skilled birth attendants and staff trained in the basics of resuscitation is essential. Basic, inexpensive care, which is in the reach of every facility, is the mainstay of treatment. Prevention of hypothermia (including skin to skin care) and early initiation of breastfeeding, within the first hour, are proven to reduce neonatal mortalities dramatically.

The past decade has seen the introduction of several initiatives that have the potential to improve neonatal health including the Limpopo Maternal Care programme featured on page 195. The Director for Maternal and Neonatal Health in the National Department of Health, has the potential to strengthen leadership, investment and accountability for neonatal care across all levels of the health care system A national neonatal implementation plan has been developed and provincial plans have been aligned and signed off in all nine provinces. A standardised neonatal admission register has been developed will generate national indicators (e.g. KMC and antenatal steroid coverage) that are needed to monitor the quality of care provided to mothers and neonates, track trends in morbidity and mortality, and tailor plans to address problems in maternal and neonatal care at national, provincial, district and sub-district level. This must still be rolled out across the country.

Training in the essential steps in the management of obstetric emergencies (ESMOE) has been funded for national roll out and has improved the maternal care significantly. Two further interventions are particularly promising in helping to reduce NMR: the management of small and sick neonates (MSSN) and helping babies breathe (HBB). Yet provincial roll out has covered less than 50% of facilities at district level.

The District Clinical Specialist Teams (DCSTs) in collaboration with the district health management teams have the potential to play a role in delivering training and improving clinical governance at district level, and those districts with a full DCST staff complement have shown improvements in neonatal care.[71] Yet uptake of DCST posts by paediatricians has been very limited. Clinical governance structures are lacking in some districts and in the absence of monitoring and evaluation, early neonatal mortality rates are rising in certain provinces.

Moving forward, it is vital to ensure that each district puts mechanisms in place to ensure accountability and successful implementation of newborn care. A comprehensive bundle of care for preterm babies must form part of an essential package of care for children, with emphasis on preventing preterm labour and limiting complications after preterm birth. This should also include a training package for mothers to help them recognise the early warning signs for sick neonates so that they know when to seek care. Community health workers are well placed and have the potential to provide a full package of services and support for mothers and their newborn babies following their discharge from hospital. This should extend beyond health promotion to include curative services such as antibiotics for newborns with respiratory distress, as pneumonia is one of the leading causes of death post-discharge.

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Box 4: Adolescent health – a second chance in the second decade

Adolescence is a period of both opportunity and risk that sets the foundation for adult health, and the health of the next generation of children. Health interventions during adolescence therefore offer both immediate and long-term rewards.[72] Global initiatives such as the SDGs, the Global Strategy for Women's, Children's and Adolescents' Health, the Lancet Commission on Adolescent Health and Wellbeing, and the Countdown to 2030 have therefore called for greater investment in adolescent health.

Habits established in adolescence are key predictors for adult behaviour. Rapid physical and psychosocial changes, accompanied by peer pressure, may encourage young people to either make healthy choices or put their health at risk as they explore, experiment, and search for identity and belonging. For example, tobacco use is a leading driver of non-communicable diseases such as cancer, heart disease and chronic respiratory diseases, whilst alcohol use is associated with road traffic injuries, violence and condomless sex.

Table 4 illustrates how adolescent boys smoke and drink more than adolescent girls. Tobacco use increased amongst adolescent boys between 2003 and 2016, yet smoking and binge drinking decreased amongst adolescent girls over the same period. The dramatic increase in obesity is also of concern – affecting nearly one in every six adolescent girls.

Early childbearing compromises the teenage mother's access to education, employment, health care and social assistance, and has a detrimental impact on her child's health, nutritional and educational outcomes. Preventing teenage pregnancy and providing additional support to pregnant teens and teenage mothers is therefore critical to optimise mother-infant outcomes.

Table 4: Obesity, tobacco use and binge drinking, youth 15 – 24, 2003 & 2016

	2003		2016	
15 – 19 years	Women	Men	Women	Men
Tobacco use (daily/ occasional)	7	23	5	29
Binge drinking in the past 30 days	8	23	5	21
Obesity	11	1.8	15.5	2.3

Source: Department of Health, Medical Research Council & OrcMacro (2007) *South Africa Demographic and Health Survey 2003*. Pretoria: Department of Health; Department of Health, Statistics South Africa, South African Medical Research Council and ICF (2017) *South Africa Demographic and Health Survey 2016: Key Indicators*. Pretoria and Rockville, Maryland: DOH, Stats SA, SAMRC & ICF.

Table 5: Condom use and early sexual debut, youth 15 – 24, 2008 & 2017

	2008		2017	
15 – 24 years	Women	Men	Women	Men
Condom use at last sex	66.5%	85.2%	49.8%	67.7%
Early sexual debut (by age 15)	5.9%	11.3%	7.6%	19.5%

Source: Shisana O, Rehle T, Simbayi LC, Zuma K, Jooste S, Pillay-Van Wyk V, Mbelle N, Van Zyl J, Parker W, Zungu NP, Pezi S & the SABSSM III Implementation Team (2009) *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey 2008: A turning tide among teenagers?* Cape Town: HSRC Press;
Simbayi LC, Zuma K, Zungu N, Moyo S, Marinda E, Jooste S, Mabaso M, Ramlagan S, North A, van Zyl J, Mohlabane N, Dietrich C, Naidoo I and the SABSSM V Team (2019) *South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2017*. Cape Town: HSRC Press.

Table 5 illustrates how the proportion of adolescent boys and young men engaging in sex at an early age increased from 2008 to 2017, while condom use amongst young men and women (15 – 24) decreased over the same period. Despite these concerns, HIV prevalence amongst pregnant women (15 – 24) declined between 2008 and 2016 (see Table 3) and teen child bearing rates have remained steady at 7% in 2009 and 2018. Yet HIV prevalence and teen pregnancy rates remain high and most of these pregnancies are unintended.

These health risks in adolescence are not simply driven by individual behaviour but are shaped by significant social and structural determinants such as poor-quality education, youth unemployment, violence and poverty that constrain adolescents' choices and limit their potential.

Chapter 4 outlines a diverse range of policies and programmes designed to promote adolescent health in South Africa. Adolescent and Youth Friendly Services (AYFS) have recently been incorporated into the Ideal Clinic Initiative in an effort to enhance the quality of adolescent health services.[73] The Integrated School Health Programme (ISHP) aims to provide a comprehensive package of health services to school children including

access to sexual and reproductive health services such as contraception.[74] And campaigns such as She Conquers aim to tackle the social and structural determinants of HIV among young women and girls.[75]

Yet, despite investments in AYFS,[76] adolescents continue to report dissatisfaction with the quality of care they receive. They voice concerns about respect and confidentiality,[77] and call for better relationships with health workers, more flexible clinic opening hours, and access to a wider range of services.[78] It is therefore not surprising that adolescent women aged 15 – 19 years are less likely to have access to contraception, more likely to have an unintended pregnancy, and less likely to access HIV testing and treatment than adult women.[79] It is therefore a priority to establish what works best to increase adolescents' access and adherence to treatment.[80]

extended to include free primary level care for everyone, while the National Patient Fee Schedule enables social grant beneficiaries to receive free health care at public hospitals. In each case, these provisions are intended to address some of the financial barriers that undermine access to care. Yet those living in the poorest 20% of households are most likely to experience catastrophic health-care expenditure linked to the costs of hospitalisation or medical supplies.[81]

Inequity

Stark inequities persist between rural and urban areas as well as the private and public health-care sectors: 52% of health-care spending is focused on the richest 16% of the population who can afford private health care,[82] while the majority of South Africans are dependent on the public health system in which resources are thinly stretched. Only 32% of medical practitioners work in the public sector, and specialists remain concentrated in the wealthier and more urban provinces of the Western Cape and Gauteng.[83] Rural provinces continue to experience significant shortages of doctors and nurses.[84] These challenges and inequities are likely to intensify following proposed cuts to social spending.[85]

Ninety-six percent of children in the poorest households are dependent on the public health system, while 82% of those in the richest households access private health care as illustrated in Figure 12.

Quality

While access has improved, quality of care remains a concern. Audits of child deaths in hospital have identified a number of modifiable factors at hospital, clinic and community levels.[86] This includes caregivers' failure to recognise the danger signs and delays in seeking care, health workers' failure to identify or respond to growth problems or HIV, and a lack of high care facilities for children.[87] Adolescents in turn express concerns about opening hours, long waiting times, stockouts of medicines, confidentiality and quality of care.[88]

This suggests that efforts to close the quality gap need to extend to patients' experiences and the ways in which health-care services uphold children and adolescent's right to dignity, care and respect. For example, the Institute for Healthcare Improvement's efforts to drive quality improvement outline a vision of a health-care system in which there are "no needless deaths, no needless pain and suffering, no needless waiting, and no needless helplessness".[89]

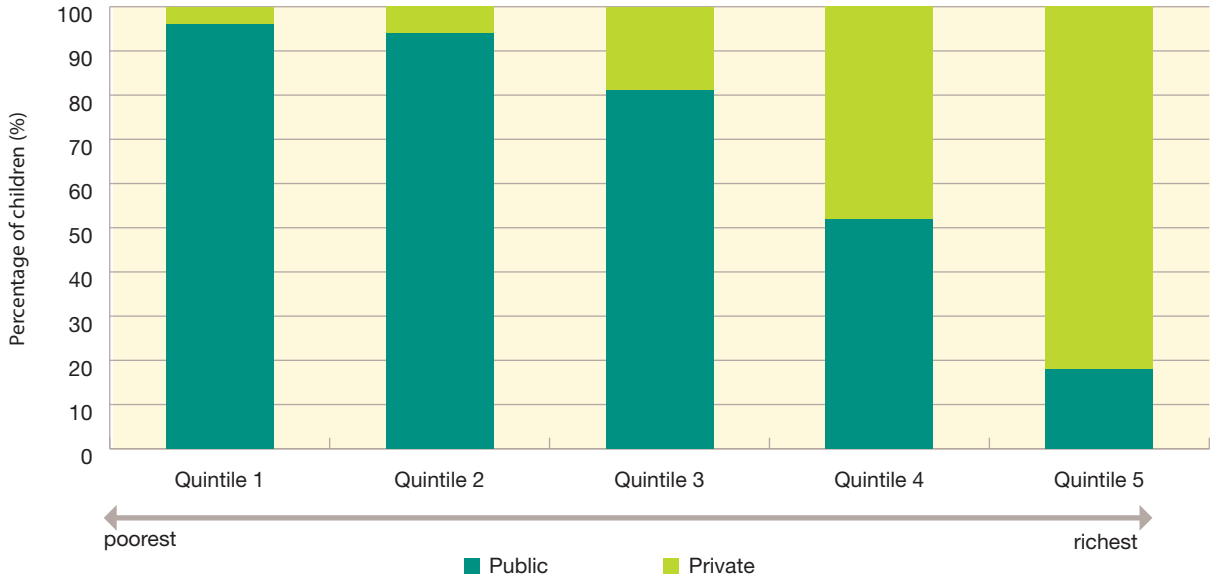
Yet a 2011 audit of health-care establishments noted poor compliance with ministerial priority areas such as waiting times (68%), cleanliness (50%), patient safety (34%) and positive and caring attitudes (30%).[90] The 2015/16 audit raised similar concerns around quality of care and also pointed to systemic challenges such as budgetary constraints, vacant posts, shortages of medical supplies and equipment, poor leadership and governance.[91]

National Health Insurance

The introduction of a National Health Insurance (NHI) system, in an effort to achieve universal health coverage, has the potential to address some of these challenges by introducing a more equitable distribution of resources between public and private sectors, and financial risk protection for the poor. In addition, the re-engineering of primary health care has a strong focus on maternal and child health and is intended to strengthen service delivery at district level in preparation for NHI. This includes the introduction of district-based clinical specialist teams (DCSTs) to provide leadership for child health at district level together with school health and ward-based outreach teams to extend the reach of health-care services to children's homes and schools.

Yet Chapter 11 describes how the current distribution and number of community health workers (CHWs) – with a proposed ratio of one ward-based outreach team to 3,856 households – may compromise the quality of this care. Increased investment is therefore needed in the numbers, training, supervision and conditions of service of CHWs.

Figure 12: Type of facility used when children are ill, by household income quintile, 2018



Source: Statistics South Africa (2019) *General Household Survey*. Pretoria: Stats SA. Analysis by Debbie Budlender.

The DCSTs have the potential to strengthen leadership for child health at district level and are intended to improve clinical governance, enhance quality of care, and drive intersectoral collaboration in response to the local burden of disease. While there are examples of promising practice, most teams are incomplete. For example, the quality of neonatal care in districts where the DCST has both a paediatrician and paediatric nurse has improved by up to 30%,[92] yet most DCSTs are missing paediatricians and family physicians.[93]

The emphasis on school health services since 2012 is another welcome move, with the Integrated School Health Policy (ISHP) outlining a package of services to identify and address health problems and barriers to learning, promote healthy behaviours, and provide reproductive health services to high-school learners. However, implementation remains a challenge, with national coverage (for a limited range of services) reaching only one third of Grade 1s and 22% of Grade 8s in 2017/18.[94] A shortage of school nurses, social workers and allied health professionals' compromises screening and referrals and limits the range of services delivered on the ground. As yet, no packages of care or robust onward referral pathways exist – and as such, the huge potential of the ISHP remains untapped.

Governance and leadership

Current provincial inequities, and gaps in coverage and quality of child health services, raise questions about capacity and leadership for child health at national, provincial and district levels. Good governance is the foundation of a resilient and responsive health system,[95] and enables the whole system to function effectively. It works together with other facets of a health system in achieving health goals. Chapter 10 expands on what a child-centred health system encompasses and how the different elements of the system must work together.

In the current health system and country climate, poor leadership, governance and management of the health system result in failures to implement policies and allocate resources appropriately. Austerity cuts, frozen posts and staff shortages place undue strain on health professionals and undermine the quality of care and safety of children and adolescents.[96] At a service delivery level, for example, stockouts of essential medicines such as vaccines (11%), ARV and TB treatment (36%)[97] compromise access to treatment.

Effective, child- and adolescent-friendly health services are therefore unlikely to be achieved without strong leadership for child health and cross-cutting initiatives to strengthen the health care system. While health sector reform is indeed necessary, it is not sufficient to address the burden of childhood morbidity and mortality. Proactive engagement with other sectors is also needed to address the social and environmental determinants of child and adolescent health.

Table 6: Social and environmental determinants of child health, 2008 & 2018

Poverty and unemployment	2008	2018
Children living in unemployed households	35%	30%
Children living below the upper bound poverty line	71%	59%
Care arrangements		
Children without a co-resident mother	25%	23%
Orphans (maternal, paternal and double orphans)	17%	5%
Child-only households	0.6%	0.3%
Education		
Children attending an ECD programme (5 – 6 years old)	75%	92%
Children attending school (7 – 17 years old)	96%	98%
Grade 9 completion rate	62%	70%
Children not in employment, education or training	35%	34%
Environment		
Children with access to adequate water	62%	70%
Children with access to adequate sanitation	62%	79%
Children with access to electricity	80%	91%
Children living in informal housing	10%	9%
Children living in overcrowded households	26%	18%
Health		
Children living close to clinic	59%	80%

Source: Statistics South Africa (2009, 2019) *General Household Survey 2008. General Household Survey 2018*. Pretoria: Stats SA.
Note: For detailed definitions and more information on each indicator, see Part 3: Children Count in this issue of the *South African Child Gauge*.

Is South Africa making progress in addressing the social and environmental determinants of child and adolescent health?

The impact of children's living conditions, care arrangements and access to services on child health is well-established and can have either a protective or harmful effect. In particular, the links between poverty, inequality and ill health are well-established and for children are particularly important, as most life-threatening childhood illnesses are preventable through improvements in their living conditions.

For example, a global analysis of the success factors underpinning improvements in maternal and child health across 144 low- and middle-income countries indicated that health-sector investments accounted for only half of the reduction in under-five mortality between 1990 and 2010.[98] The remaining gains were driven by health-enhancing investments in other sectors, such as improved education, access to clean water, and reductions in poverty and income inequality.

Table 6 outlines South Africa's progress in addressing the social and environmental determinants of child and adolescent health, tracking shifts in children's living conditions, care arrangements and access to services.

Child poverty

Child poverty has decreased over the last 10 years, driven by the expansion of the Child Support Grant (CSG), which now reaches over 12 million children. Yet nearly 60% of children still live below the upper-bound poverty line (in households with a per capita income of less than R1,183 per month), and children are more likely than adults to be concentrated in poor households.[99]

The CSG is associated with improved health, nutrition and education outcomes, and is protective against adolescent risk behaviour,[100] yet 17.5% of eligible children do not receive the grant. Uptake is lowest in the first year of life,[101] and the low value of the grant (R430 per month in October 2019) is not sufficient to meet the nutritional needs of a child.

Poverty intrudes into every area of children's lives and is associated with multiple forms of deprivation, as illustrated in Figure 14.

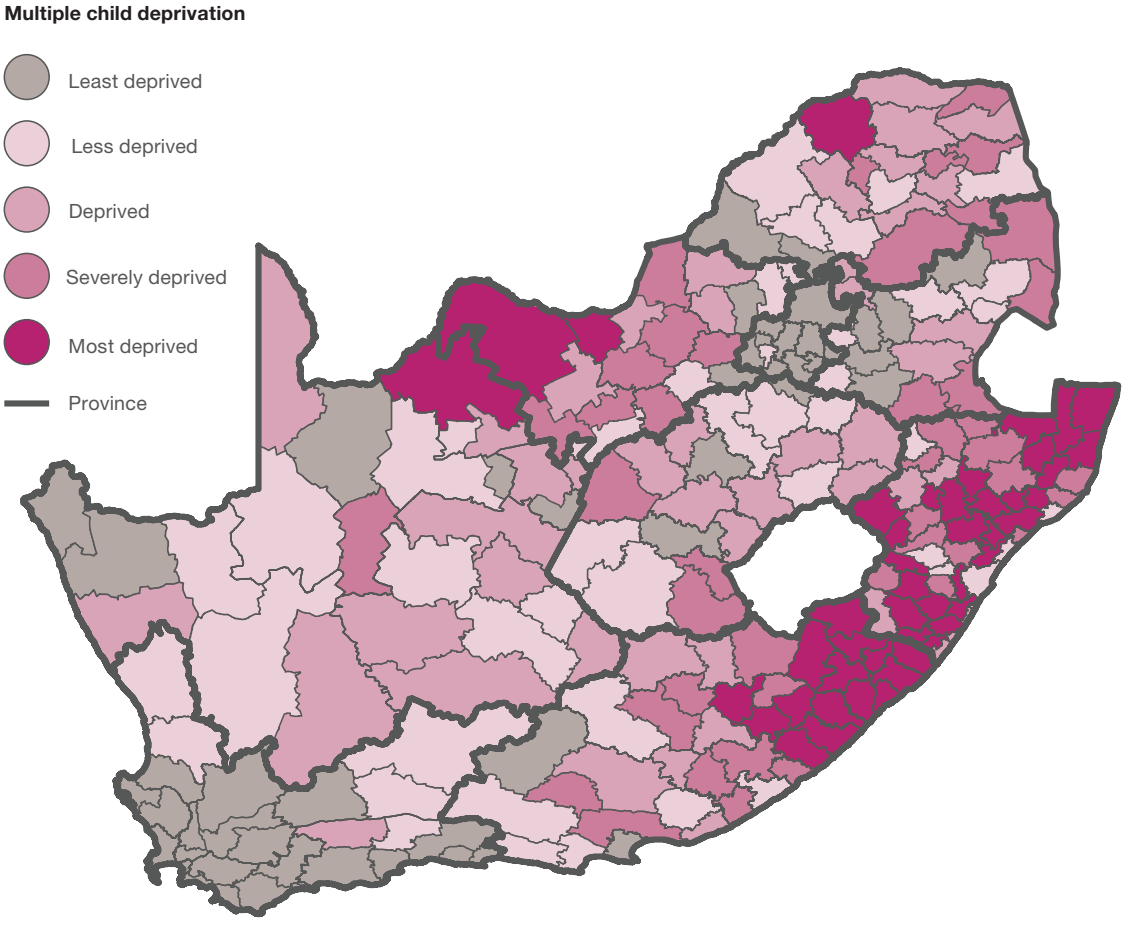
Growing up in a poor household is likely to compromise children's health, nutritional status, care arrangements and access to services. It undermines their cognitive development, academic performance and employment prospects and compromises the health and development of the next generation of children. This intergenerational cycle of poverty is difficult to escape, and many families will remain trapped in poverty unless radical structural economic changes are brought about.[102]

Persistent income, spatial and racial inequalities

Persistent and pervasive structural inequalities limit the life-chances of children and their families and prevent a large proportion of children and adolescents from living to their full capabilities.

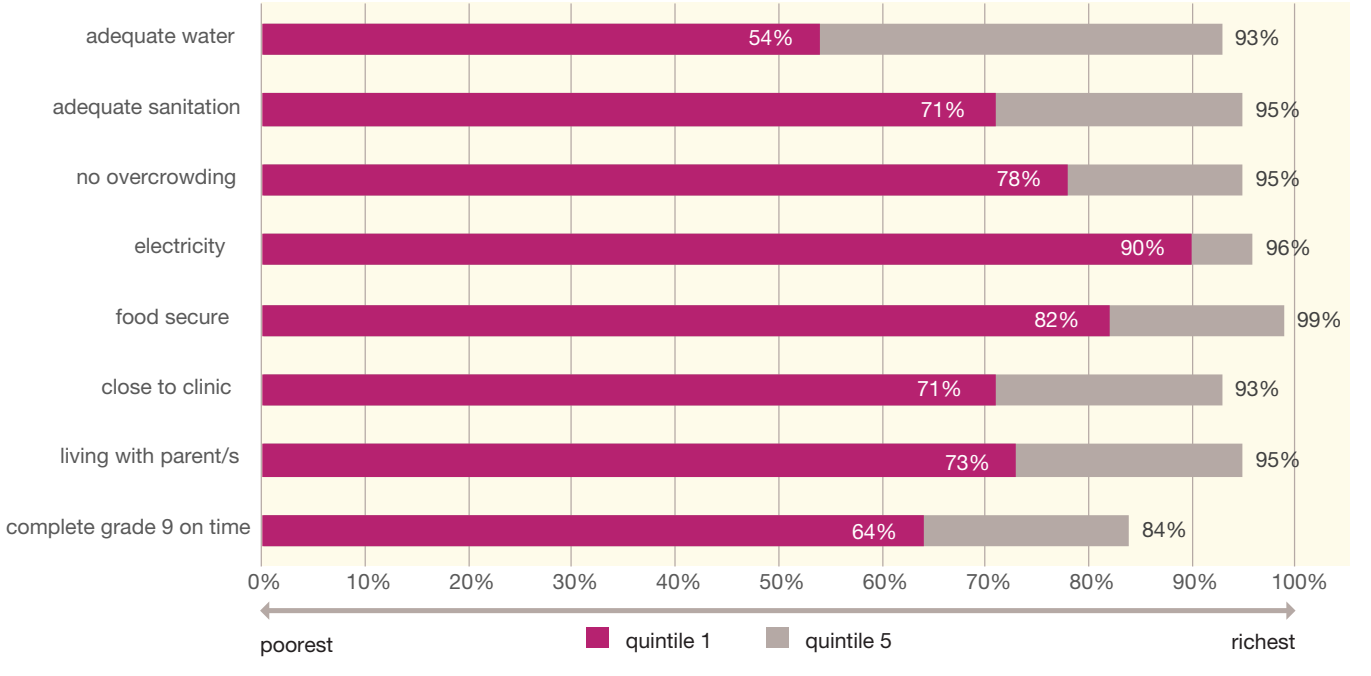
While child poverty has decreased, income inequality or the gap between rich and poor has widened since 1994. A recent 2018 World Bank report identified South Africa as the most unequal country in the world, with poverty levels highest

Figure 13: South African Index of Multiple Deprivation for Children, at municipality level, 2011



Source: Southern African Social Policy Research Institute, 2017

Figure 14: Children's living conditions, care arrangements and access to services, by income quintile, 2018



Source: Statistics South Africa (2019) *General Household Survey 2018*. Pretoria: Stats SA.

amongst black South Africans, the less educated, unemployed, female headed households, large families and children.[103]

Despite introducing an array of policies and programmes intended to alleviate child poverty, patterns of racial and spatial inequality have proved particularly resistant to change. These are rooted in the structural violence of apartheid and colonialism which entrenched White privilege and systematically excluded Black South Africans from equal education and economic opportunities, confined them to the deep rural areas or fringes of South Africa's towns and cities, and fractured the fabric of family and community life.[104]

Figure 13 illustrates how child deprivation continues to be most severe in the rural areas and former homelands – with dark red indicating municipalities where children are most deprived and grey indicating areas where children are less deprived. If one were to zoom in even closer, similar patterns of inequality would become visible within municipalities, drawing attention to the ways in which the health and safety of children living in informal settlements and in poor urban areas are threatened by a toxic mix of poverty, violence, overcrowding and insanitary living conditions.[105]

In 2018, two in every three African children (65%) lived below the poverty line, yet only 3% of White children lived in poor households as illustrated in Figure 15.[106]

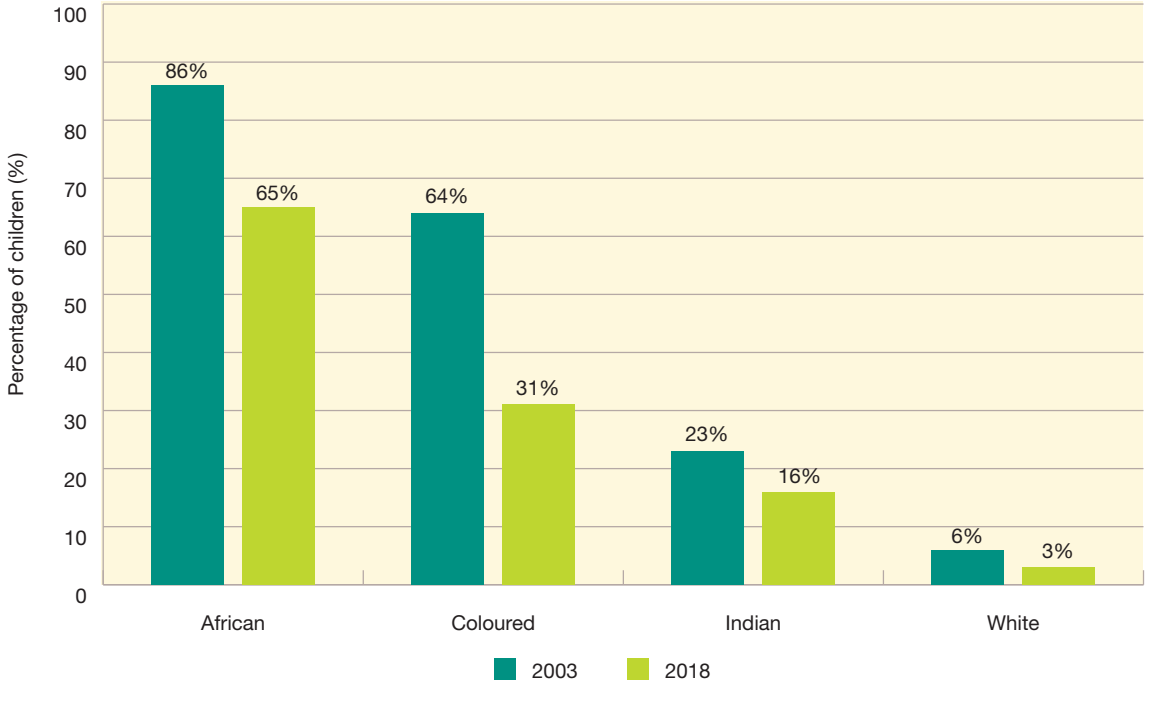
Care arrangements

Poverty and unemployment place additional strain on families and caregivers, with women often carrying a double-burden of care and financial support.[107] Only one in three children in South Africa lives with both their biological parents, 43% live with their mothers, and a further one in five children live with neither parent – most in the care of grandmothers and other kin. Families and care arrangements are often fluid – stretching across rural and urban divides as families seek to balance the search for employment with the care and protection of children. Yet these arrangements also have the potential to disrupt children's access to education and health-care services and may increase their vulnerability to maltreatment and psychological distress.[108]

Education and employment

Basic education has the potential to be a great equaliser and provide a gateway to higher education and employment. Over the past 10 years, South Africa has increased access to early childhood development programmes and school attendance has been consistently high with 98% of children aged 7 – 17 attending school, but the quality of education and throughput remains of serious concern. At least 78% of grade 4 learners cannot read for meaning in any language.[109]

Figure 15: Children living below the upper-bound poverty line, by race, 2003 & 2018



Source: Statistics South African (2004, 2018) *General Household Survey 2003. General Household Survey 2018.* Pretoria: Stats SA. Analysis by Katharine Hall, Children's Institute, UCT.

Whilst 95% of learners completed grade 7 in 2017, only 51% completed grade 12.[110] It is therefore not surprising that, 34% of youth (15 – 24 years) are not in employment, education and training – with no change over the last 10 years.[111] Youth unemployment is particularly high with 53% of young people aged 21 - 24 unemployed, driven by poor quality education and widespread structural unemployment, with an official unemployment rate of 29% in 2019.

Improved living conditions

Despite these challenges, the past 10 years have seen significant increases in children's access to electricity, water, sanitation and formal housing – in part driven by increasing urbanisation, with 57% of children now living in urban areas. Yet there has been little or no change in the proportion of children living in informal housing.

Improved access to water, sanitation and good quality housing can help in the reduction of diarrhoea and pneumonia prevalence and the spread of communicable diseases and respiratory tract infections. Yet, 30% of children still do not have access to piped water at home, 20% do not have access to sanitation, and 18% continue to live in overcrowded households – and if addressed, can significantly improve child health. Greater efforts are therefore needed to build on recent progress and to close the gap so that all children grow up in a safe and healthy environment.

Towards an intersectoral approach

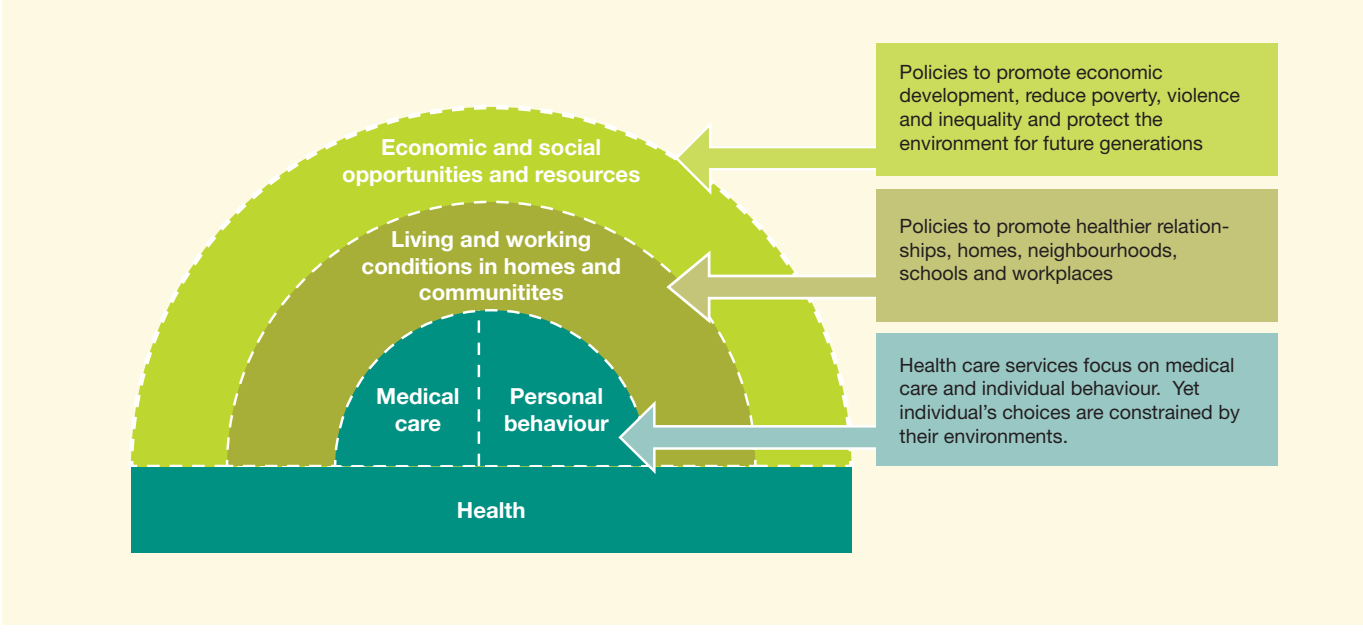
Children's health, survival and development are shaped in fundamental ways by their living conditions, care arrangements and access to services. Yet these immediate social and environmental determinants of child health are also shaped by broader political, economic, social and environmental forces – from laws, policies, and social norms to climate change and the unequal distribution of power, money, goods and services locally, nationally and globally, as illustrated in Figure 16.

Efforts to promote children's health and development therefore need to extend beyond treatment and the provision of health care services. This includes engaging a wide range of stakeholders in both government, business and civil society in order to improve children's living conditions, reduce inequalities and create greater economic and social mobility.

How can South Africa draw on global initiatives to reimagine child and adolescent health?

Global initiatives such as the Sustainable Development Goals (SDGs), Global Strategy for Maternal, Child and Adolescent Health,[112] Nurturing Care Framework[113] and the WHO's report on Health for the World's Adolescents[114] offer an opportunity to respond to these challenges and reimagine health care services for children. These initiatives call for universal health

Figure 16: Opportunities to promote child and adolescent health



Source: Adapted from Braveman PA, Egerter SA & Mockenhaupt RE (2011) Broadening the focus: the need to address the social determinants of health. *American Journal of Preventive Medicine*, 40(1): S4-18.

coverage, a greater emphasis on supporting children's development across the life course, and intersectoral collaboration to address the social determinants of health.

The Sustainable Development Goals

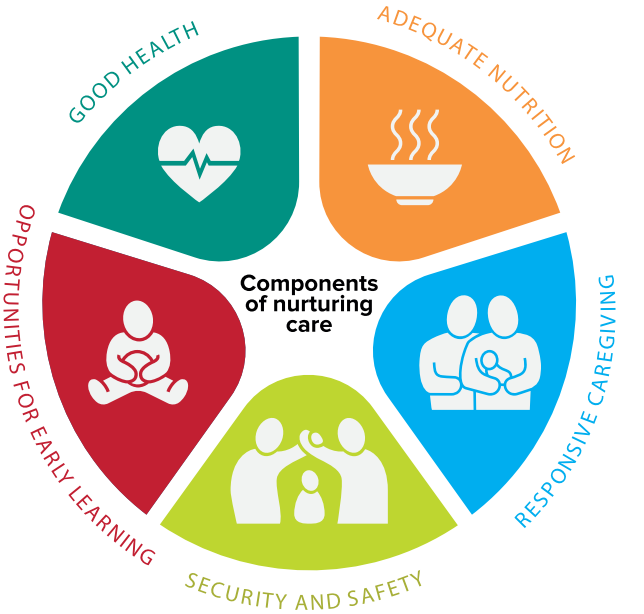
In 2015 the United Nations committed to a new global agenda centred on the achievement of the SDGs by 2030. The SDGs aim to balance "economic growth, social justice and environmental stewardship"[115] and call for an integrated approach to development with an emphasis on intersectoral collaboration in order to maximise synergies across 17 goals.

The SDGs build on the foundation of the Millennium Development Goals, which mobilised global efforts to combat poverty, hunger and disease. Yet despite achieving significant progress with the MDGs, these gains often failed to reach those most in need – giving rise to inequalities both between and within countries. The SDGs therefore have a much more explicit focus on reducing inequality through addressing social, environmental, economic and other structural determinants of health – recognising "that the dignity of the human person is fundamental" and prioritising the most vulnerable members of society to ensure no one is left behind.[116]

Survive. Thrive. Transform.

The Global Strategy for Women's, Children's and Adolescents' Health (2016 – 2030) builds on this foundation and aims to not only end preventable deaths, but also ensure that children thrive by expanding enabling environments so that "every women, child and adolescent realises their rights to physical and mental health and well-being".[117] This shift beyond child survival to optimal development requires a transformation in the ways in which we deliver health-care services for children and adolescents. This includes greater attention to nutrition, early childhood development and sexual and reproductive health care services – and a commitment to achieving universal health coverage and financial risk protection for the poor. In addition, the Global Strategy aims to create an enabling environment by addressing the broader social determinants of health such as poverty, violence, and access to water and sanitation. Figure 19 outlines some of the practical steps required to achieve this.

Figure 18: The five components of nurturing care



Source: World Health Organization, United Nations Children's Fund & World Bank Group (2018) Nurturing Care for Early Childhood Development: A framework for helping children survive and thrive to transform health and human potential. Geneva: WHO.

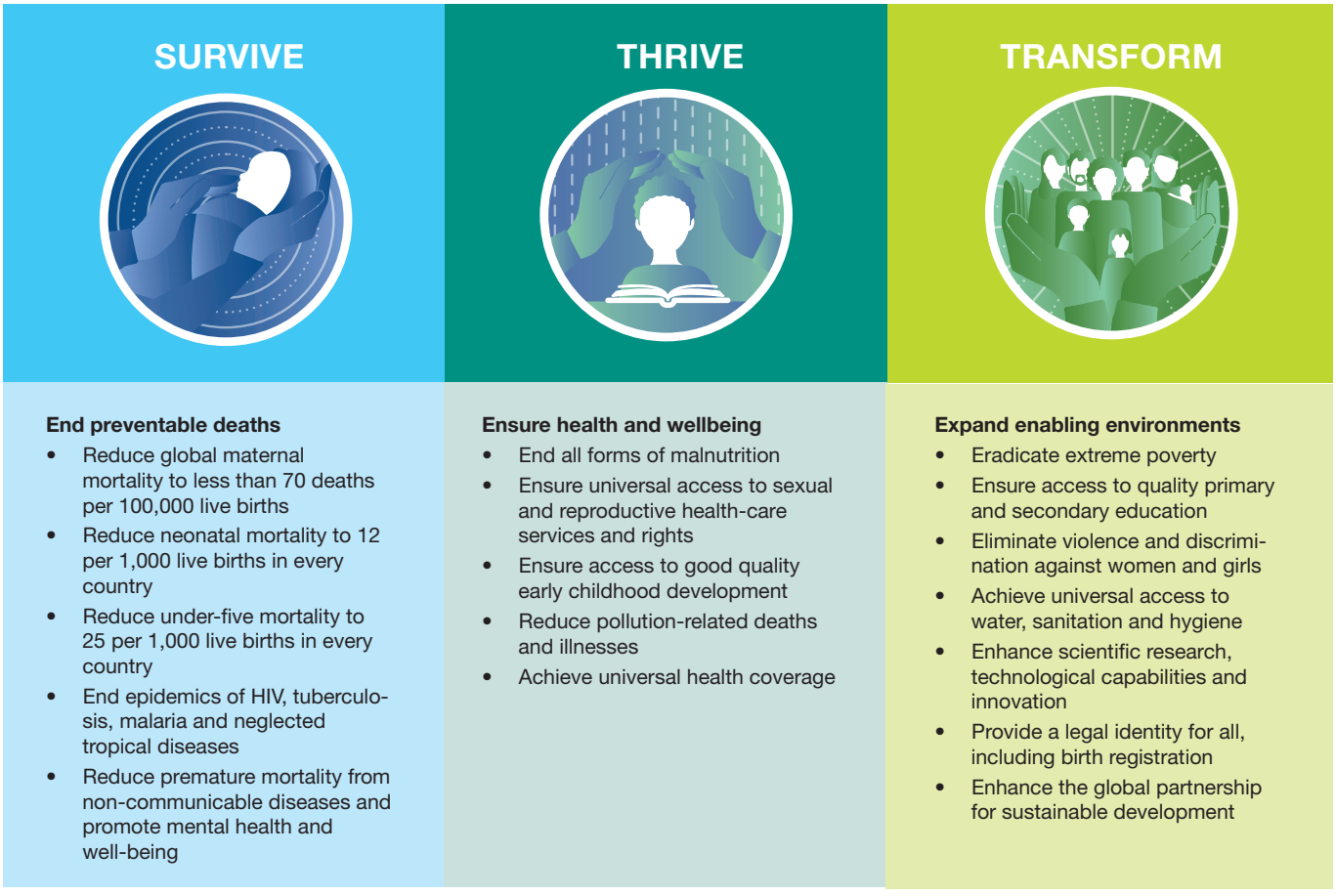
The Nurturing Care Framework

The Nurturing Care Framework for Early Childhood Development (NCF)[118] builds on these global commitments and evidence from The Lancet Series on Advancing Early Childhood Development: from Science to Scale,[119] emphasizing how early investment in 'nurturing care' provides a foundation for healthy development across the life course.

The NCF highlights how the first 1,000 days of life are a particularly sensitive period of development and acknowledges the central role of parents and caregivers in providing a strong foundation of nurturing care by ensuring children's good health and nutrition, protecting them from harm, providing them with opportunities to

Figure 17: The Sustainable Development Goals: Driving an integrated approach to development

Figure 19: Survive. Thrive. Transform. Redefining the global strategy for child and adolescent health



Source: Every Woman, Every Child (2015) The Global Strategy for Women's, Children's and Adolescents' Health (2016 – 2030), Survive, Thrive, Transform, *Every Woman Every Child*. New York: EWEC.

learn, and providing care that is responsive to children's needs. The framework calls on health, nutrition, education, social welfare and child protection services to create an enabling environment and support the efforts of families and caregivers. It identifies health as the lead department for the first 1,000 days, as it has the greatest reach and is the most effective platform for reaching pregnant women, infants and young children.

A second chance in adolescence

The WHO's 2014 report on Health for the World's Adolescents[120] and global call for Accelerated Action for Adolescent Health (AA-HA!)[121] recognise the benefits of investing in adolescence as it has the potential to improve the health of adolescents themselves, their future health as adults, and the health, well-being and development of their children. Instead of treating adolescents as old children or young adults. AA-HA! recognises adolescence as a unique period of development and recommends designing services in collaboration with adolescents to ensure they better meet adolescent needs. It also goes beyond the traditional focus on HIV and sexual and reproductive health, to call for a 'whole of society approach' in order to mobilise the efforts of other sectors – such as education, social protection and urban planning – to fulfil adolescents' rights to health.

UNICEF is developing an Adolescent Country Tracker, with: a set of 30 indicators across five domains that aim to promote adolescent health, education, protection, transition to work and participation in family and community life. While some of these indicators are familiar, the participation domain encourages us to think more deeply about how to listen to adolescents, take them seriously, actively involve them in decision making, and instil a feeling of self-worth.

But what do these shifts in global strategy mean for children in South Africa, and how can we draw on these initiatives to strengthen the health-care system and ensure that no child is left behind?

What are some of the key considerations in setting an agenda for 2030?

This issue of the *South African Child Gauge* emphasises some of the persistent and emerging challenges affecting South Africa's children and adolescents that require urgent attention, and it draws on these shifts in global thinking to both interrogate and reimagine health-care services for children.

Chapter 2 presents the science underpinning **a life course approach** to health and development. Research into the developmental origins of health and disease foregrounds the complex, dynamic interaction between our biology (our genes, systems and organs) and environment (our nutrition, physical and social environment) and how this shapes our health and development across the life course and those of our children. For example, maternal stress and malnutrition can causes epigenetic changes in the developing foetus that predispose children to a greater risk of obesity and non-communicable diseases in adulthood. It is therefore essential to intervene early – particularly during sensitive periods such as adolescence and the first 1,000 days of life – to protect children from adversity and optimise their health and development.

Chapter 3 focuses attention on opportunities to intervene during **the first 1,000 days** of life. It introduces key elements of the Nurturing Care Framework and explores how these have been integrated into the South African health-care system in order to better support families and caregivers, and improve the health, nutrition, care, safety and early stimulation of young children.

Chapter 4 focuses on **adolescence** as a second window of opportunity highlighting the need for intersectoral action to address the structural drivers of adolescent health. This includes efforts to extend adolescent programmes beyond health care services to reach young people in their schools and communities and through mobile platforms, and a greater emphasis on working in partnership with adolescents to ensure that services are attuned to adolescent needs and delivered with care and respect.

The subsequent five chapters focus attention on emerging challenges: long term health conditions, violence and injury, mental health, the double burden of nutrition, and environmental health and climate change.

Chapter 5 focuses attention on **long term health conditions** (LTHCs) which affect an estimated one in five children in South Africa. As South Africa makes strides in reducing child mortality, the proportion of children with disabilities and LTHCs is likely to increase. These children require early intervention and ongoing care and support to ensure their optimal functioning and participation in family and community life. This will require a significant reorientation of the health-care system to ensure continuity of care both within and between health and other support services.

Chapter 6 focuses on **violence and injuries** which account for an increasing share of child mortality and are the leading cause of death amongst adolescents. Violence and injuries are often considered in isolation, yet they share many common risk factors, such as poverty, poor education, and substance use. The chapter identifies opportunities to bridge this divide and to strengthen primary prevention by creating safer communities and healthy relationships within the family.

Chapter 7 sheds light on child and adolescent **mental health**. While little is known about the extent of mental health conditions affecting children and adolescents in South Africa, we know that poverty, violence and social inequalities increase the risk of depression, anxiety and substance use disorders – and undermine families' capacity to care for children. Most mental health conditions have their roots in childhood, with 50% of mental health problems established by the time a child turns 14.[122] Yet, the mental health of children and adolescents has been largely neglected and under-resourced. The chapter therefore calls for early and sustained investment in mental health across the life course, starting early in the antenatal period in order to support families and children.

Chapter 8 examines how persistently high levels of stunting and rising obesity are compromising children's health, education and employment chances and fuelling the adult burden of non-communicable diseases. The drivers of this **triple burden of malnutrition** extend beyond infant feeding choices and are shaped by structural forces: Poverty and unemployment continue to compromise the quality and diversity of children's diets, and the marketing strategies of transnational corporations are making sugary drinks and ultra-processed foods widely available and desirable.

Chapter 9 focuses attention on **environmental health and climate change**. Today's children are exposed to a wide range of environmental toxins – in the food they eat, the air they breathe, the water they drink and the places they call home. Children are particularly vulnerable to environmental exposures as their bodies and brains are still developing, yet there are very few child-centred policies in place to protect children from harm. These threats are likely to intensify with climate change as rising temperatures, droughts and extreme weather events undermine food security, drive the spread of disease, and increase violence and crime. The chapter therefore calls on the state to regulate industry and develop

Figure 20: Adolescent country tracker

ADOLESCENT COUNTRY TRACKER (ACT) 5X5PLUS5

	Health and Wellbeing	Education and Learning	Protection	Transition to Work	Participation and Engagement **	PLUS 5
5X5	All cause mortality rate	Proficiency in reading and mathematics*	Child Marriage (by 15 and 18)*	Time spent on economic activities	Sense of self-worth	Adolescent population
	Suicide mortality rate*	Youth literacy rate*	Homicide mortality rate*	Time spent on unpaid household services*	Experience of being taken seriously / being listened to	Adolescents living below the international poverty line*
	Adolescent birth rate*	Completion rate for primary education	Intimate partner violence*	Information and communication technology (ICT) skills*	Experience of individual decision-making	Use of improved drinking water source and sanitation facility*
	Prevalence of underweight and overweight	Completion rate for lower and upper secondary education	Violent discipline*	Adolescents not in education, employment or training*	Opportunities to challenge injustice	Gini (inequality) index
	Substance use	Out-of-school rate	Experience of bullying	Unemployment rate*	Experience of public participation	Social institutions and gender index
Country Specific Indicators						

*SDG indicator

**Intentionally comparable indicators for this domain are under development. Five Outcome areas have been proposed for which indicators and survey tools are being designed.

child-centred policies to safeguard the health of children and future generations.

The final two chapters focus on what is needed to prioritise children and adolescents and place their interests at the heart of the health-care system.

Chapter 10 identifies the principles that should inform the development of **child- and adolescent-centred health care system** at district level. It recognises the need for a 'whole systems' approach to ensure that child health is adequately prioritised and resourced. This means that child health is not just the responsibility of child-specific programme and services. It requires all facets of the health system – both the hardware (finances, human resources, drugs and supply chains) as well as the software (values, attitudes, relationships, behaviours and communication systems) – to be attuned to the needs of children, adolescents and families.

Chapter 11 focuses attention on **building a workforce for child health** that is responsive to the changing demographics and epidemiology of child health. This requires a shift from a narrow focus on under-five mortality to an extended view of child health throughout the first two decades of life and a broader set of skills to support children's optimal health and development, including better continuity of care, and a greater emphasis on quality care close to home.

This issue of the *South Africa Child Gauge* is also peppered with a series of case studies that showcase innovative and promising practice. These are intended to stimulate critical thinking, generate a sense of possibility, inspire others to take action, and promote leadership for child health at all levels of the health-care system.

The concluding chapter reflects on these emerging challenges and opportunities. It explores the common drivers and calls for greater collaboration between different sectors and spheres and government, and the integration – and prioritisation – of child and adolescent health in all policies and practices to ensure we reap the benefits of a life course approach to health and development, and that no child is left behind.

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Acknowledgments: This chapter draws on and updates previous analyses presented a series of shadow reports to the African Committee of Experts on the Rights and Welfare of the Child, UN Committee on the Rights of the Child, and UN Committee on Economic, Social and Cultural Rights.

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