

# Quality in health outcomes and health budget frameworks



## Understanding quality and budget frameworks in the health sector in South Africa, 2016 – 2021

### Preface

This publication is one of two longer research papers that address quality in the health and basic education sectors. This follows the thematic focus of equity in the 2021 annual Budget Brief series. Given the centrality of quality for basic education and health, UNICEF South Africa is dedicated to developing several research interventions that summarise the status quo, present the most up-to-date research, and put forward appropriate and context-specific recommendations for addressing quality deficits.

### Key Messages

#### Research approach to this study

The approach to this paper was centred on a series of quality and systems reviews that were done in the health sector in South Africa. This approach allowed us to extract common components of quality, whether defined in process, structural, or outcome terms. The idea was to analyse whether national and provincial health frameworks support the interventions that have been identified as mediating quality in the health sector. Finally, the paper looked at international and domestic indicators related to quality and related data.

**This five-year review on the link between budget frameworks and the delivery of quality health suggests that budget policy during FY2016-2021 and the emergence of COVID-19 have left indelible marks on health outcomes for children, and that a concerted effort must be made to undo the negative effects of declining health spending and the reallocation of resources that accompanied COVID-19.**

**The COVID-19 pandemic has negatively affected health outcomes through constraints on access and resources.**

The Government needs to urgently, and regularly, monitor health outcome data and intervene in areas where performance is lagging. Ill-health in children can have lasting health impacts well into their adulthood, making child health one of the most cost-effective ways to improve population health.

**This research report has produced several interesting findings on the state of performance information in the sector, child health outcomes, financing trends in provincial departments of health, and the link (or lack thereof) between budgets and quality outcomes.**

#### Using the country's health information system to monitor performance

**Over the last three decades, many quality-improvement policies and initiatives have been developed in South Africa, which have led to notable health gains such as increased life expectancy and reduced mortality rates.** However, the common thread remains - suboptimal implementation and monitoring of such initiatives due to a lack of clarity on how to measure progress.

**The routine health information system in South Africa is not sufficiently detailed to monitor quality.** Furthermore, the public health sector has not implemented a unique patient identifier and electronic health record (EHR). This is not only detrimental for patient management, but it also prevents the sector from having an accurate picture of the burden of disease, making it difficult to plan or allocate resources according to the need.

**While programmatic budgeting has allowed for monitoring of spending at a broad health-programme level, it is still insufficiently detailed to support an understanding of how funds are linked to the achievement of health outcomes and therefore whether the funding levels are appropriate.**





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This makes it difficult to monitor the effectiveness of the health spending in terms of delivering quality healthcare.

### Child health outcomes

**The government has undertaken a raft of quality policy and interventions since 1994, and this report inquired how key child health outcomes stack up for the period of this report (2016 to 2021)**

**Firstly, the use of PHC facilities by children aged under-5 years is declining and immunisation coverage for children aged below 1 year is below accepted targets.** While there was an understandable dip in the utilisation rate of Primary Healthcare (PHC) facilities for children aged under-5 years in FY2020, the trend in the preceding years (2016-2021) was negative. In FY2019 and FY2020, immunisation coverage for children aged under 1 year was 76 percent and 70 percent, still far below the 90 percent benchmark target.

**Only KwaZulu-Natal (KZN) and Mpumalanga (MP) met the 90 percent immunisation coverage target in FY2019, while North-West shows the worst performance in the same year at 63 percent coverage.** More regular interactions with a health facility allow for more opportunities to vaccinate and measure anthropometrically for malnourishment – preventing death from vaccine preventable diseases and avoidance of malnutrition which is associated with increased case fatality

**Secondly, case fatality rates for children aged under-5 years shows a concerning upward trend over the period of this research.** Children have been negatively affected by the COVID-19 pandemic, with much higher fatality rates in FY2020 than previous years. For example, the diarrhoea case fatality for the under 5-years-olds rate increased from

1.8 percent (2019/2020) to 2.6 percent in 2020/2021. The low immunisation coverage rates in FY2020 risks increased case fatality rates for vaccine-preventable conditions - a concerning risk for child health in South Africa.

**Thirdly, significant progress has been made in reducing neonatal death in facility per 1,000 live births with Western Cape exceeding the Sustainable Development Goal (SDG) of 12 deaths per 1,000 live births.** In addition to the Western Cape, KwaZulu-Natal, Mpumalanga, and North-West (with the exception of FY2020) have also met the SDG target, while Free State is the worst performer during the period FY2016 to FY2020.

**Fourthly, the quality of antenatal care (ANC) has a direct relationship on maternal and child health outcomes: all the provinces are performing well below the targets for quality care.** The target for ANC first visit coverage before 20 weeks is 100 percent and all provinces are performing well below this for most of the years analysed (national average of 67 percent in 2020/2021). Worryingly, performance appears to have stagnated since FY2018 for most provinces.

**Finally, interactions with the health system that happen outside of facilities are not routinely reported, thus limiting one's assessment of these interactions on quality health outcomes for children.** Decreases in in-facility visits may be supplemented by out of facility care ('community-oriented primary care') but we do not have any evidence for this. Bringing health system utilisation back up to levels that support population health is a crucial focus area and there is room for innovation in terms of where and how these interactions happen (for e.g., in-facility, in-community or even through telehealth services).

### Trends in public financing of health, FY2016-2021

**South Africa's proportion of children of the total population, which should support greater coverage of child health services.** Gauteng (GP) and Western Cape (WC) provinces have the smallest share of uninsured children aged under 15 years, which is due to lower fertility rates in the urban hubs. In general, South Africa's population is ageing and with this comes a burgeoning of non-communicable diseases in the adult population. This is likely to redirect spending from children to adults in a

constrained budget environment.

**South Africa's public health spending is almost equal to its private sector spending, despite far more uninsured lives (~84 percent).** While South Africa's overall Total Health Expenditure (THE) is relatively high (~8.5 percent of GDP), Brazil shows spending levels more similar to South Africa (9.59 percent) while Mexico has much lower health spending as a proportion of GDP at 5.43 percent. Under 5-year-old child mortality per 1,000 live births in 2020 was 15 in Brazil, 14 in Mexico, and 32 in South Africa. This clearly illustrates the difference in quality. However, in Brazil and South Africa the THE is almost evenly split between the public and private health sectors and South Africa's public health spending (which needs to support ~84 percent of the population's healthcare needs) sits at only ~4 percent of GDP in South Africa.

**The proportion of total provincial spending on primary healthcare has increased (30 percent to 32 percent in 2021/2022), while proportional spending on hospital services decreased, over the five-year period of this study.** This is in line with the stated policy intention to re-orient its service delivery platform toward primary healthcare as the most cost-effective way to maintain and improve population health. This reflects the policy shift from a hospital-centric model to a PHC-oriented service

delivery model.

**Spending on the PHC system on a per capita uninsured basis is inequitable across the provinces.** However, PHC continues to be a major contributor of health spending, which is the most cost-effective way to keep a population well. The difference in per capita spending is likely also driving the differences in utilisation and outcomes – where a better resourced province is able to achieve better health. However, it is also true that some provinces who are spending more are achieving worse outcomes, providing evidence for the need for routine measurement of quality against financial performance.

**Furthermore, over the period of this study, funding was often insufficient to meet population growth, which may negatively impact health outcomes.** In many provinces, the small growth in health expenditure was insufficient to accommodate population growth, resulting in expenditure per capita uninsured being below the national average for several provinces.

**Reductions in health facility maintenance budgets are likely to negatively impact on structural quality.** The evaluation of the NHI pilot districts showed that a large proportion of patients believed the structure of PHC facilities could be improved upon. The majority of PHC facilities assessed fell below the 70 percent benchmark but progress against norms and standards is improving.

**Compensation of employees (COE) has the largest real Rand increase in spending between FY2016 and FY2021 (~R24 billion), but medical supplies has shown the largest proportional growth at 40 percent, no doubt related to Covid-19.** Vaccines form part of the medicine's expenditure, and the small annual increase in FY2018 and FY2019 may be one of the reasons the country is struggling to meet the 90 percent coverage target for child immunisations.

**So, what does this research report say about the budget frameworks in the health sector and whether these actually support a quality framework and outcomes?** The picture remains complex, although some trends are noticeable:

- Spending on human resources for health remains the biggest driver of health expenditure and one of the most stable expenditure trends over the period



studied. The tension between sufficient HRH and goods and services remains in play, however the scope of this report does not allow for an assessment of overall adequacy of HRH.

- Prior to COVID-19, spending on medical supplies (such as vaccines) was in decline, which may explain the low immunisation coverage rates for children.
- While COVID-19 boosted spending on medical supplies (principally through COVID vaccines), this meant further de-prioritisation of other child health interventions, and a large and significant mop-up campaign is needed to restore such vital services.
- Provincial health budgets are oriented strongly towards primary health care, which is in line with the adopted quality frameworks, but reduced health infrastructure spending could diminish the significance of these allocations over time.
- The recent proposed reductions in the health budget over the new MTEF complicate matters, and especially the need to restore child health services to their pre-COVID levels.
- This report contends that the equity and quality interventions planned through the NHI would be credible if there is a deliberate attempt at improving the quality of services that public hospitals provide: this requires substantial financial investment and nimble management.

**Based on the key findings above, the national Department of Health and provincial health departments are encouraged to**

- Ensure that funding for critical goods and services, like medicines, should be determined through evidence-based methods to ensure the supply and need are matched.
- Introduce a risk-adjusted capitation fee for primary healthcare to reduce inequity between provinces and

districts.

- Immediately implement a targeted, nation-wide immunisation mop-up campaign to counter real and potential reversals in child health outcomes.
- Support Community health workers (CHWs) to conduct door-to-door campaigns to provide health education on the prevention and management of diarrhoea, pneumonia, and malnutrition.
- Gradually institute electronic health records that provide individualised, clinically coded data to allow



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# Section 1: **Introduction**



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**South Africa's public health spending is almost equal to its private sector spending, despite far more uninsured lives (~84 percent ).**<sup>[3]</sup> South Africa is unique on the African continent as its overall Total Health Expenditure (THE) is relatively high (~8.5 percent of GDP). Kenya spends 4.59 percent and Ghana 3.42 percent of GDP on health in 2019. <sup>[3]</sup> Given South Africa is an upper middle-income country (UMIC), it is also helpful to compare health spending to other UMICs. Brazil shows spending levels more similar to South Africa (9.59 percent ) while Mexico has much lower health spending as a proportion of GDP at 5.43 percent .<sup>[4]</sup> However, in Brazil and South Africa the THE is almost evenly split between the public and private health sectors and South Africa's public health spending (which needs to support ~84% of the population's healthcare needs) sits at only ~4 percent of GDP in South Africa. Mexico has achieved universal health coverage and its 5.43 percent of health spending as a proportion of GDP goes entirely to public health funding.

### South African public health system structure

**South Africa has one National Department of Health (NDoH), nine provincial departments of health (PDoH) and 52 district health offices (DHOs).** The NDoH is responsible for policy and strategic direction, while PDoHs are able to create province-specific policies and strategies and

are responsible for implementing national public health policy. DHOs are the implementing arms of the PDoHs and are responsible for district health services, which includes primary health care and district hospitals. There are 3 503 primary health care (PHC) fixed facilities, 251 district (level 1) hospitals, 48 Regional (level 2) hospitals, 62 other provincial hospitals (specialised and tertiary level) and nine Central hospitals.<sup>[5]</sup>

### Access to public health facilities has increased dramatically since 1994.

Over 1,600 public health facilities have been constructed or renovated since 1994, which has supported improved access to care. Since the onset of democracy in 1994, the SAG has made a concerted effort to increase funding for the public health sector to improve access and availability of health services across the country.<sup>[3]</sup> Between 1994 and the global recession in 2008, South Africa showed positive economic growth each year, ranging between 0.5 percent and 5 percent , which supported this additional investment in health infrastructure. Since the global recession, and now the more recent Covid-related economic downturn, South Africa has shown low to no economic growth.<sup>[6]</sup>

### However, the routine health information system in South Africa is not sufficiently detailed to monitor quality.

Data is routinely collected and aggregated through the District Health Information System (DHIS) which is nationally owned and run. However, the public health sector has not implemented a unique patient identifier and electronic health record (EHR) which would allow for detailed individual data on health status and health outcomes. This is not only detrimental for patient management, but it also prevents the sector from having an accurate picture of the burden of disease, making it difficult to plan or allocate resources according to the need. Further, with South Africa's planned shift to the National Health Insurance (NHI), the sector will have to rollout an electronic health record (EHR) to facilitate tracking, quality monitoring and provider reimbursement.<sup>[7]</sup> This has been in the planning phase at the NDoH for several years now.

### Budget structure

**South Africa uses programme-based budgeting (PBB) budgeting linked to the level of healthcare service delivery.** PBB (along with the medium-term expenditure framework) has been implemented in many health systems





across the globe, South Africa included, to try and improve the linkage between health budgets and stated health priorities and goals.<sup>[8]</sup> While programmatic budgeting has allowed for monitoring of spending at a broad health-programme level, it is still insufficiently detailed to support an understanding of how funds are linked to the achievement of health outcomes and therefore whether the funding levels are appropriate.<sup>[8]</sup> This makes it difficult to monitor the effectiveness of the health spending in terms of delivering quality healthcare.

**Three of the PDoHs budget programmes are directly related to the utilisation of the service delivery platform.**

The NDoH has six budget programmes, while the provincial departments of health (PDoHs) consist of eight. Of the eight, three are directly related to service delivery (Programme 2: District Health Services (DHS), Programme 4: Provincial Hospitals and Programme 5: Tertiary and Central Hospitals). The DHS programme includes primary healthcare facilities and district (level 1) hospitals. Programme 4 includes level 2 hospitals and specialised hospitals like mental health facilities. Programme 5 includes level 3 and 4 hospitals (Appendix 1).



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Section 2:  
**The need for  
quality in the  
healthcare  
sector in  
South Africa**



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### Defining and framing quality

**Donabedian’s (1996) structure-process-outcomes framing of quality is still the foundation of most quality frameworks.** Donabedian is widely accepted as one of the pioneers of healthcare quality measurement. His framework, developed in 1996, uses a triad of indicators to evaluate healthcare quality: structure, process, and outcome (Figure 1).<sup>[9]</sup> He defines “structure” as the infrastructure, equipment, settings, qualifications and attributes of providers and administrative systems through which care takes place, also known as inputs. “Process” relates to the standardisation of healthcare through clinical protocols and available treatments and services.

**Both clinical outcomes and patient-reported outcomes are litmus tests for quality.** “Outcomes” refer to the impact on patients and are defined as the recovery, survival and restoration of function.<sup>[9]</sup> Donabedian refers to clinical outcome measures (e.g., decreased neonatal mortality or decreased diarrhoea incidence) as the ‘ultimate validators’ of quality healthcare. However, in systems without EHRs or robust health information systems, outcomes can be hard

to track and measure. More recently, patient-reported outcomes measures (PROMS) are being explored to ensure quality is linked to the patient’s perception of care- this moves the system from quality to value.<sup>[10]</sup>



Photo credit: @UNICEF South Africa/Peens/2022

Figure 1: Donabedian's quality framework



Source: *Percept Actuaries and Consultants*<sup>[2]</sup>

**The marker of a quality health system in South Africa is a health system that achieves equitable health outcomes and a long and healthy life for all.** The South African Lancet National Commission on High Quality Health Systems deliberated on the definition for quality healthcare within the South African context. The consensus, finalised in 2019, was that a “high-quality health system achieves equitable health outcomes and a long and healthy life for all.”<sup>[11]</sup> The inclusion of an outcomes and impact statement within the definition of quality is a positive move for shifting South Africa’s quality policies from purely structural and process related quality to the measurement of health outcomes.

**The Global Lancet Commission on High Quality Health Systems found that poor quality, rather than a lack of access was the primary cause of mortality in lower- and middle-income countries (LMICs).**<sup>[12]</sup> This requires a substantial shift in efforts from maximising access (coverage) to focusing on the quality of services provided when people do access care. To support this shift, there has been a proliferation of quality frameworks, of which most are seeded in Donabedian’s structure-process-outcome model. A conceptual framework can assist in directing efforts to the most impactful areas- linking theory and practice through evidence.

**Quality must be measured through the impact of a healthcare intervention.** The 2018 Global Lancet Commission on High Quality Health Systems used Donabedian’s framework as a base as well as other

quality literature to build a more sophisticated framework of quality that includes the elements of the health workforce, equipment, governance, and leadership all within a learning-oriented environment. The framework suggests that in data scarce health systems, quality should be primarily measured by the processes and outcomes (mortality data is the most commonly collected outcome indicator even within low-resource health systems) rather than the inputs/structural elements of quality.<sup>[13]</sup>

**Allowing patients to define good outcomes builds a person-centred health system.** The Global Lancet Commission’s framework focuses on the functioning of a health system, how a patient experiences care and the ultimate benefit to the patient of a health intervention. [14] This framework specifically calls for investment into measuring ‘patient-reported outcome measures’ (PROMS), which reflect outcomes that matter to the patient (for e.g. functionality after a procedure) rather than just success of a particular procedure from a clinical point of view.<sup>[10]</sup> PROMS are a critical new way of measuring quality but the use of PROMS in South Africa is nascent.

**Sound leadership and governance is critical for building a high-quality health system.** The South African Lancet National Commission’s final report, delivered in 2019, used Donabedian’s approach as well as the South African Constitution and values of human rights, equity, and social justice to frame quality.<sup>[14]</sup> It recognises the role that societal, economic and political factors play in achieving

health and wellbeing in South Africa. The inputs in this framework are based on the World Health Organization (WHO) healthcare system building blocks. Health service delivery also adopts a primary healthcare approach and both the outcomes, and the impact use a systems-based lens which consider the broader picture of UHC (linking this report to South Africa's NHI ambitions).

**You cannot manage what you do not measure.** Over the last two decades, many quality-improvement policies and initiatives have been developed in South Africa which have led to notable health gains such as increased life expectancy and reduced mortality rates.<sup>[11]</sup> However, the common thread remains - suboptimal implementation and monitoring of such initiatives due to a lack of clarity on how to measure progress. The frameworks presented here offer options for measurement but without following the frameworks with key measurable indicators for monitoring progress, they are not sufficient.

### South Africa's quest for quality in the health sector

**Since 1994, South Africa has been developing policy to shift the health sector toward quality.** Despite inheriting an inequitable and fragmented public health sector, the democratic government has made remarkable progress since 1994. The National Health Plan for South Africa was developed in 1994 with the vision of creating an integrated, equitable and comprehensive health system based on the Primary Health Care (PHC) approach. Following this, in 1996, South Africa's new Constitution promulgated the right to healthcare for all within South Africa's borders. The 1997 White Paper for the Transformation of the Health System also adopted a PHC approach and paved the way towards the development of a unified, quality health system.<sup>[15]</sup> 1997 also saw the introduction of the Eight Batho Pele principles towards transforming public service delivery. These include: consultation; setting service standards; increasing access; ensuring courtesy; providing information; openness and transparency; redress and value for money.<sup>[11]</sup> These foundational policies set up the vision and ambition for South Africa's public health service.

**The latest dedicated policy on quality in South Africa was updated in 2007.** The first policy specifically focusing on quality in healthcare was developed in 2001 and revised in 2007. This Policy intended to improve national

quality through the development of quality assurance mechanisms across both private and public sectors. Norms and standards were developed by the NDoH in 2001 to support implementation of the new Quality in Healthcare Policy, however, the policy lacked clear guidelines for the implementation and monitoring of the quality improvement strategies.<sup>[15]</sup>

**Initially, the gap between the promulgation of quality health policy and implementation was wide.**<sup>[15]</sup> In 2003, the National Health Act (NHA) was enacted which also recognised the need to improve the quality of healthcare.<sup>[16]</sup> It is important to note that under South Africa's NHA, the Minister of Health is responsible for both the public and private health sectors.<sup>[16]</sup> This includes oversight on norms and standards for healthcare delivery in the pursuit of a unified national health system. However, while one can expect that an Act cannot carry all the detail of implementation, no accompanying operational plan (or budget) was introduced to direct implementation or monitor progress towards targets.<sup>[15]</sup> In 2010 the 10-Point Plan for the improvement of the health sector as well as the Negotiated Service Delivery Agreement (NSDA) were developed to address this gap. These both included measurable quality assurance activities aimed towards improving patient care and satisfaction and advancing health facility performance. Two years later, the NDoH published the Quality Improvement Guide which defined quality and stipulated how it should be measured, implemented, and maintained.

**Accreditation speaks only to the structural elements of quality.** The Office for Health Standards Compliance (OHSC) was established in 2013 to bridge the gap between these policies and their implementation within and across the public and private sectors. The purpose of the OHSC (which required an amendment to the NHA for its promulgation) is to develop norms and standards for health facilities and ensure these are upheld through an accreditation process. Five years after its establishment, new norms and standards regulations developed by the OHSC were gazetted- these provide a minimum benchmark to measure facilities against in terms of quality. The intention was to bring all healthcare facilities (irrespective of sector) to the same minimum quality standards. The OHSC has also begun conducting audits of public PHC facilities to assess performance against norms and standards. The majority

of PHC facilities assessed fell below the 70 percent benchmark but progress against norms and standards is improving.<sup>[1]</sup> Thus far, there has been no plan for how to move sub-par facilities to the required standard. While accreditation processes are important for maintaining quality and ensuring a minimum standard, accreditation on its own will not shift a health system toward quality.<sup>[2]</sup>

**South Africa's incoming National Health Insurance must improve quality to garner support for the reform.** The 2019 National Health Insurance (NHI) Bill also references a quality health system which is able to monitor and measure achievement of quality standards. It will be critical for public trust in NHI for the NDoH to radically improve quality in the public health system prior to rolling out NHI. Improvement in the structural elements of quality, led by the OHSC, offers a tangible opportunity to build public trust but it is only possible if the OHSC is provided with a sufficient budget to support these structural improvements.

## Takeaways

- The forecasted decline in the number of children as a proportion of total population presents a critical opportunity to increase access to child health services within the existing budget.
- Budget Programme 2 houses primary health care services, which are the most cost-effective way of preventing ill-health for children.
- Lack of detail in both health and finance data makes it difficult to link funding more definitively to health outcomes. For this reason, it is difficult to state whether the health budget is sufficient for the health need or whether we are achieving value for money.
- Initially, there was a significant gap between the promulgation of quality policies and their implementation, but recent efforts to develop quality norms and standards have helped.
- The National Health Insurance requires further quality improvements in the public sector to make the NHI viable as a universal health coverage system.



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Section 3:  
**Performance  
on outcome,  
process, and  
structural  
measures of  
quality**





Photo credit: @UNICEF South Africa/Moulton/2022

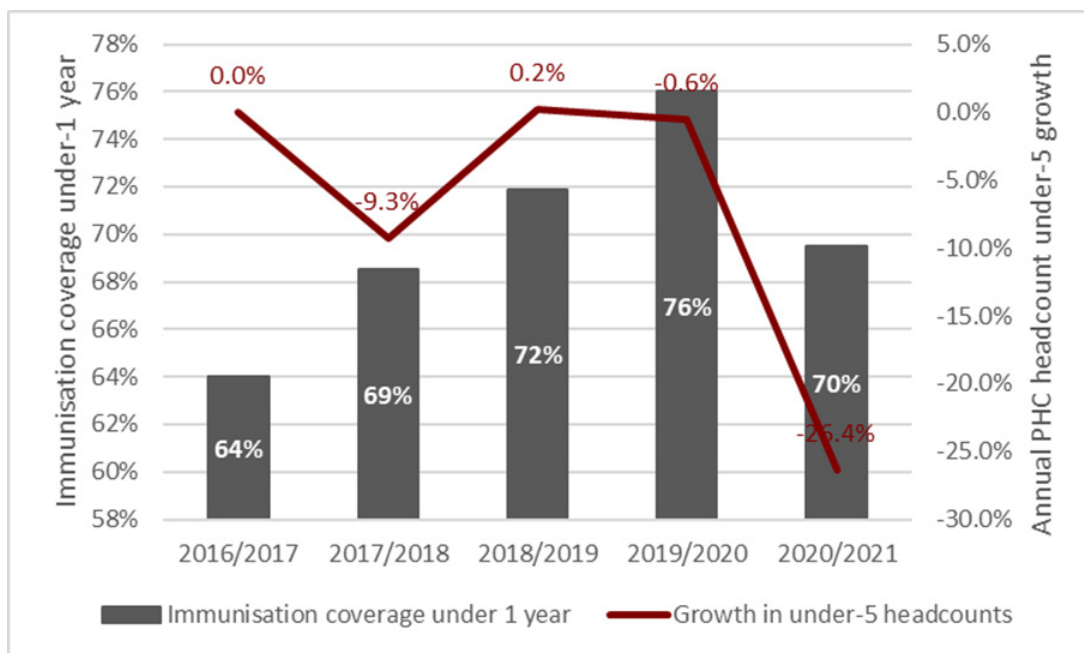
### Immunisation coverage

The use of PHC facilities by children aged under 5 years is declining and immunisation coverage for children aged under 1 year is below accepted targets. The pandemic year aside, it is concerning to see the decline of under-5 utilisation of PHC facilities (Figure 2). Although there has been an orientation toward outreach services, children aged under 5 years are still reliant on in-facility visits for immunisations and child health interventions that still predominantly take place in facilities. While immunisation coverage under-1 year shows positive improvement (excluding the pandemic year which is understandable although still a concern), South Africa’s performance on this indicator is well below the accepted 90 percent coverage target.



Photo credit: @UNICEF South Africa/Moulton/2022

Figure 2: Annual growth in PHC headcounts under-5 years against immunisation coverage under-1 year (percent)

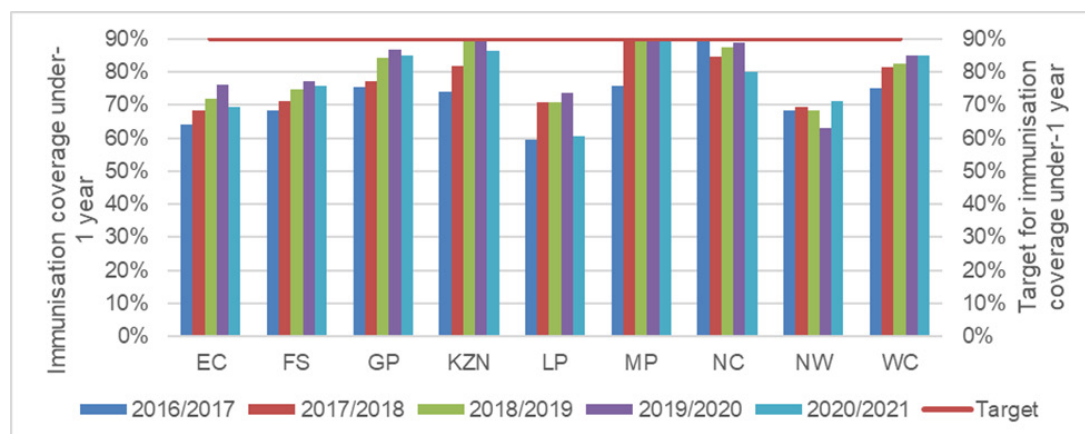


Source: South African Health Review data (2017-2021) converted into author’s own graph

At a provincial level, Mpumalanga is the best performing province on immunisation coverage under-1 year. Mpumalanga (MP) has also shown 18 percent growth on medicines which may have contributed to the improved immunisation coverage. Only KwaZulu-Natal (KZN) and MP meet the 90 percent coverage target in FY2029; North-West (NW) shows the worst performance in the same financial year at 63 percent (Figure 3). NW’s medicine budget grew by 31 percent between FY 2016 and FY2021 but medicine expenditure per capita was ~R50 lower than MP in 2021

(R361 : R413). Besides for NW, all provinces show a positive trajectory for this indicator which is encouraging. The impact of the pandemic on routine health services has influenced performance in FY2020 and the effects are likely to be felt for several years as PDoHs work to both reduce the backlog and deliver services to the new under-1 population each year. Mop-up campaigns for vaccinations are going to be crucial to not see a reversal of the gains made in recent years.

Figure 3: Provincial performance on immunisation coverage under-1 year: FY2016- FY2020 (%)



Source: South African Health Review data (2017-2021) converted into author's own graph

### Neonatal mortality

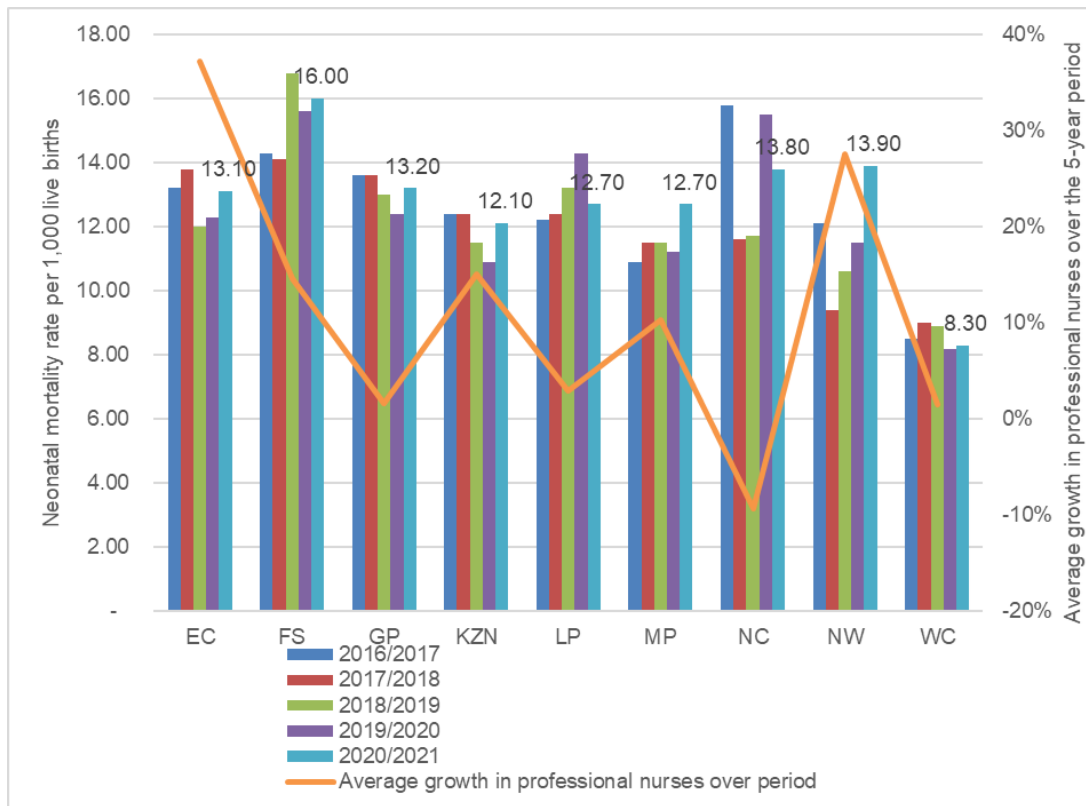
The WC province is the best performing province in terms of neonatal deaths in facility rate and has exceeded the Sustainable Development Goal (SDG) target of 12 per 1,000 live births. Free State (FS) and NW are the worst performers in FY2019 (15.6 and 15.5 per 1,000 live births respectively). KZN (12.10 per 1,000 live births), MP (12.70 per 1,000 live births), NW (12.70 per 1,000 live births) have all almost achieved the SDG target and Western Cape (8.30 per 1,000 live births) has exceeded it (Figure 4).

FS also has the fewest nurses per 100,000 children aged under 5 which may be contributing to the poorer neonatal health outcomes in the province. WC has the next lowest ratio (although still substantially more than NW) in FY2019. Most provinces show a substantial uptick in the pandemic year, likely due to additional nurses deployed using Covid relief funds. Nevertheless, this illustrates that more staff is not necessarily the answer to improving quality; once a minimum threshold has been met it is possible to deliver high quality care at a lower cost (Table 2). As is expected, for most provinces the pandemic year showed an uptick in neonatal deaths which could be due to increased pressure on the service delivery platform due to Covid-19 hospitalisations and/or the decline in antenatal care and immunisation-coverage.



Photo credit: @UNICEF South Africa/Moulton/2022

Figure 4: Provincial performance on neonatal death in facility per 1,000 live births rate: 2016/2017- 2020/2021



Source: South African Health Review data (2017-2021) converted into author’s own graph

Table 1: Professional nurses per 100,000 children for children aged under 5 years

Professional nurses per 100,000 children under-5	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Average growth
Eastern Cape	1 327	1 659	1 559	1 666	1 820	37%
Free State	984	913	871	921	1 128	15%
Gauteng	1 574	1 412	1 403	1 461	1 600	2%
KwaZulu-Natal	1 399	1 544	1 516	1 514	1 610	15%
Limpopo	1 511	1 392	1 422	1 451	1 555	3%
Mpumalanga	1 401	1 190	1 178	1 395	1 546	10%
Northern Cape	1 669	1 401	1 320	1 394	1 514	-9%
North-West	1 202	1 262	1 112	1 374	1 534	28%
Western Cape	1 380	1 251	1 083	1 257	1 400	1%

Source: Authors own calculations using South African Health Review and Statistics South Africa data (2017-2021)

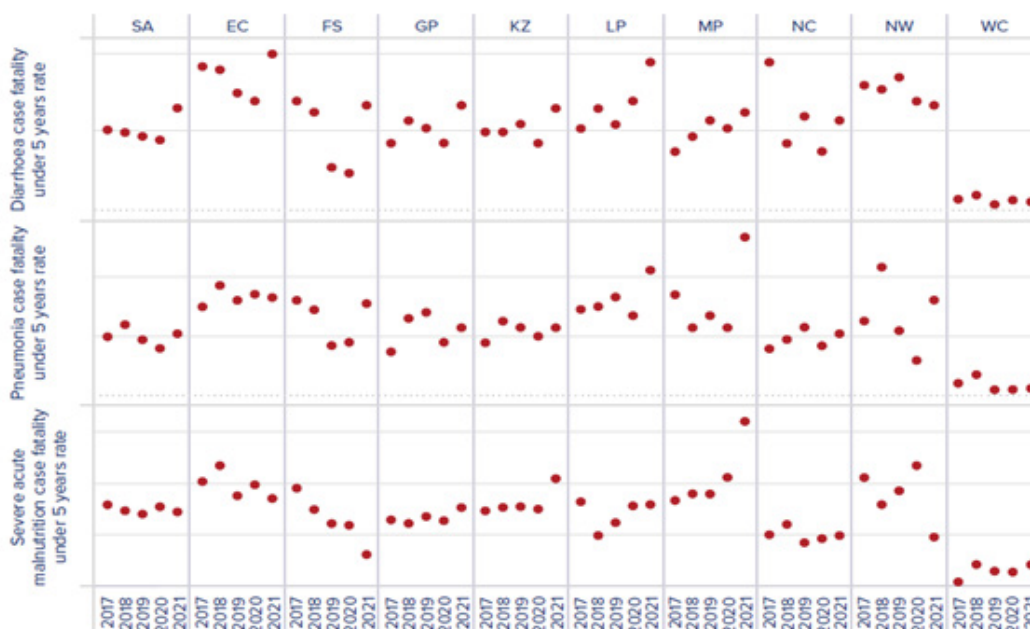
### Case fatality rates for children aged under 5 years

**The WC province shows the best performance in terms of case fatality rate (CFR) for children aged under 5s with much lower rates than other provinces.** Children have been negatively affected by the pandemic, with much higher fatality rates in FY2020 than previous years. However, CFR for under-5s shows an increasing trend for the period studied for most provinces even before the pandemic, which is concerning (Figure 5). Figure 5 shows the annual trend of CFR, by cause for each province by year. An upward trend represents more deaths, while a downward trend reflects positive progress (fewer deaths). To die from a preventable disease like diarrhoea or pneumonia is a travesty and these deaths could have been averted if the health system was able to intervene in time, with the required treatment. There is also a positive relationship between malnutrition and case fatality, where the more malnourished a child is, the more likely they are to have severe negative health outcomes. The low immunisation coverage rates in FY2020 also risks increased CFR for vaccine-preventable conditions- a concerning risk for child health in South Africa.



Photo credit: @UNICEF South Africa/Moulton/2022

Figure 5: Case fatality rate for under-5s, by cause<sup>[3]</sup>



Source: South African Health Review, Chapter 29, pg344 (2022)

The WC province shows substantially higher PHC under-5 utilisation rates (5 visits per child under 5 per annum) which could be the reason their case fatality rates are much lower than the other provinces as it indicates more regular interactions with the system to keep children well. More regular interactions with a health facility allow for more opportunities to vaccinate and measure anthropometrically for malnourishment – preventing death from vaccine preventable diseases and avoidance of malnutrition which is associated with increased case fatality. KZN, Limpopo (LP), MP, and Northern Cape (NC) show the next highest utilisation rates, all above four visits per child under-5 per annum (Table 3). Unfortunately, interactions with the health system that happen outside of facilities (for example, in homes or communities) are not routinely reported on - decreases in in-facility visits may be supplemented by out of facility care ('community-oriented primary care') but we do not have any evidence for this.



Table 2: PHC under-5 utilisation rate (average number of visits per child under-5 years)

PHC utilisation rate under-5	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Eastern Cape	3.73	3.84	3.71	3.79	2.91
Free State	4.03	3.28	3.34	3.70	3.07
Gauteng	4.61	3.60	3.81	3.83	2.80
KwaZulu-Natal	4.06	4.17	4.26	4.15	2.87
Limpopo	5.36	4.53	4.53	4.68	3.78
Mpumalanga	4.72	3.75	3.81	4.11	2.98
Northern Cape	5.81	4.29	4.11	4.21	3.03
North-West	4.18	3.67	3.29	3.78	2.86
Western Cape	5.56	4.78	4.39	5.00	3.61

Source: Authors own calculations using South African Health Review and Statistics South Africa data (2017-2021)



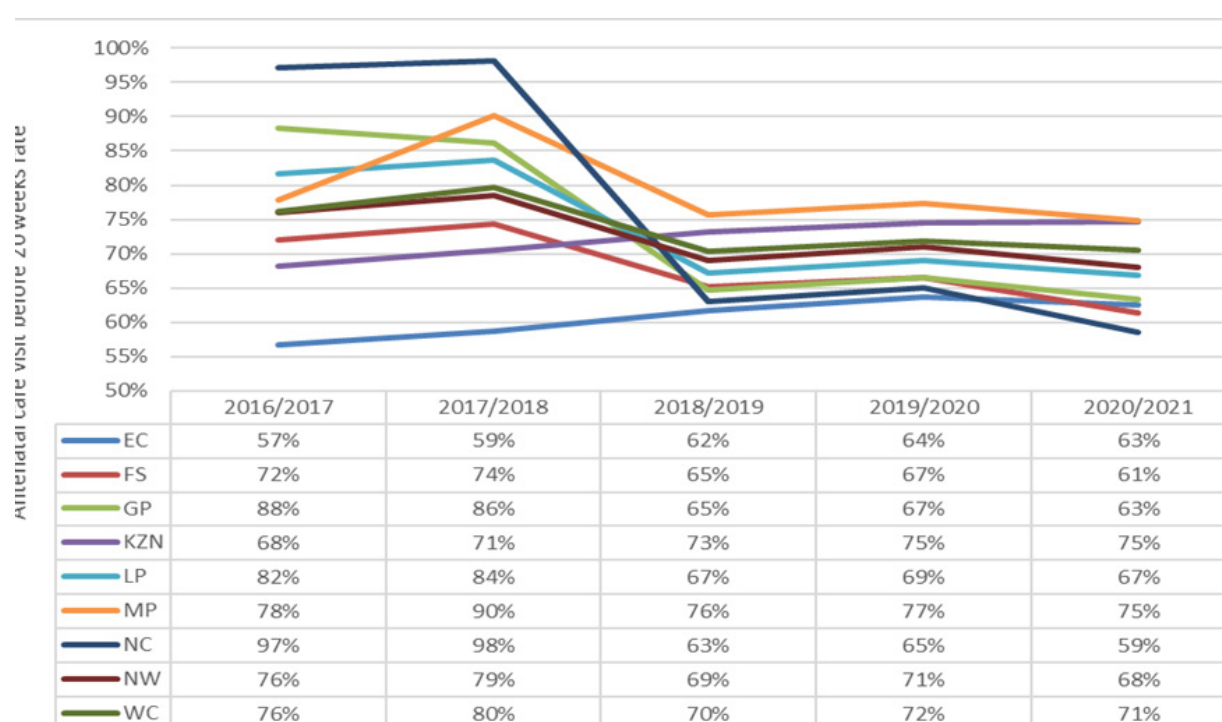
Photo credit: @UNICEF South Africa/Moulton/2022

### Antenatal care visits

**The quality of antenatal care has a direct relationship on maternal and child health outcomes: all the provinces are performing well below the targets for quality care.**

The target for ANC first visit coverage before 20 weeks is 100% (i.e., all women should receive their first ANC visit before the 20-week mark), all provinces are performing well below this for most of the years analysed (**Figure 6**). Worryingly, performance appears to have stagnated since 2018/2019 for most provinces. This process measure of quality is likely linked to the suboptimal outcome measures for children discussed above.

Figure 6: Antenatal care visits before 20 weeks rate, by province (percent)



Source: South African Health Review data (2017-2021) converted into author's own graph

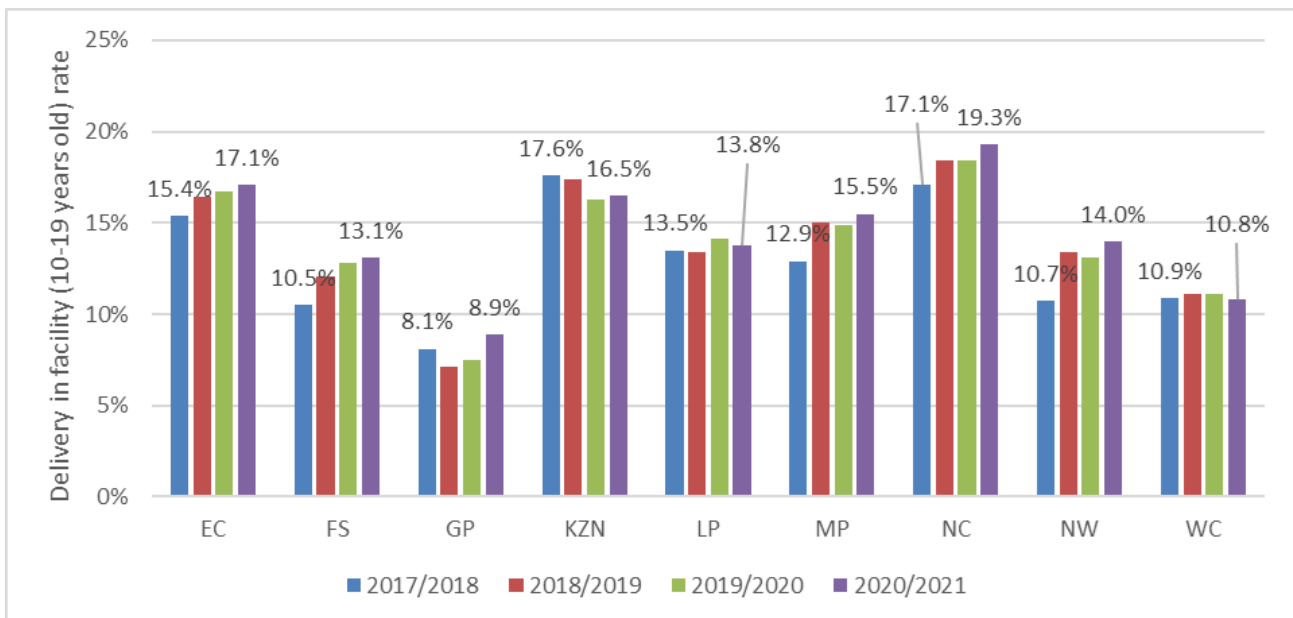
### Deliveries in adolescent girls and young women under 20 years old

There has been no notable difference in the number of young women and girls giving birth in facilities over the five-year period. While it is positive that the rates have not increased dramatically, one would like to see a downward trend of this indicator as pregnancy at a young age has not only health implications but socio-economic implications as well (Figure 7). On average, the rate of deliveries in 10 – 19-year-old women for the country has grown from 13 percent in 2017 to 14.3 percent in 2021. Eastern Cape (EC), KZN, MP and NC all have higher rates than the national average.



Photo credit: @UNICEF South Africa/Moulton/2022

Figure 7: Deliveries in facility between 10-19 years old



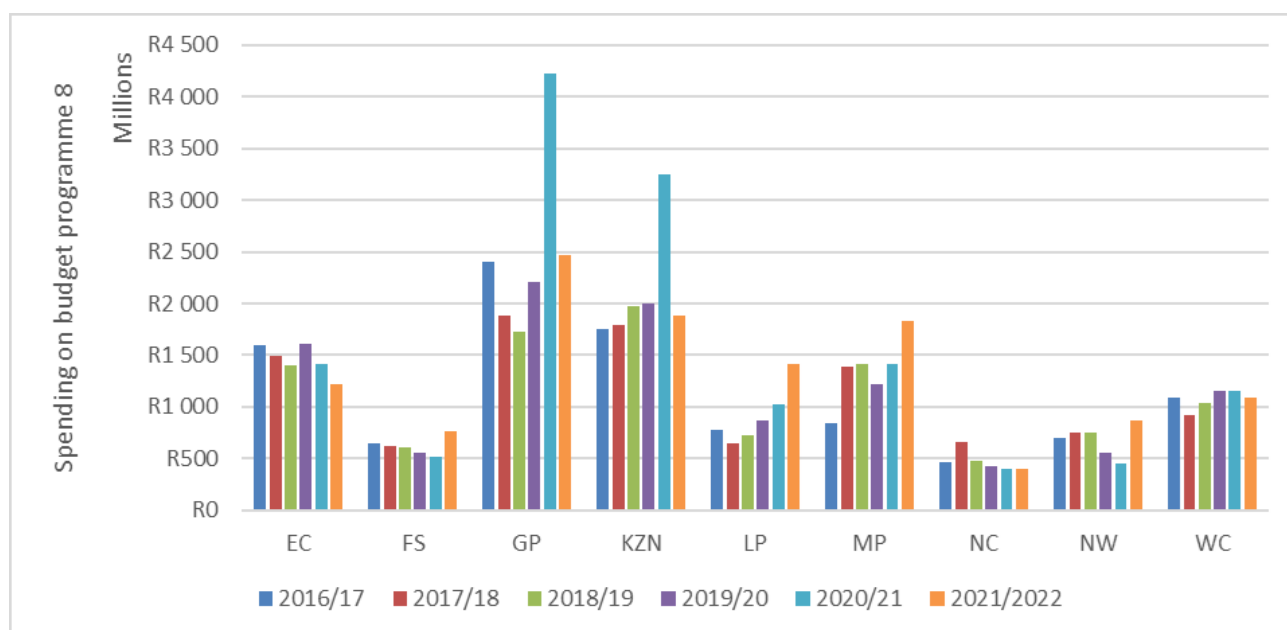
Source: South African Health Review data (2018-2021) converted into author's own graph

**Reductions in health facility budgets are likely to negatively impact on structural quality.** LP shows a dramatic reduction in planned spending for programme 8 in the MTEF period, which may place structural quality at risk (Figure 8). The OHSC unfortunately does not make provincial performance against 'ideal clinic' status public, however, reports from FY2018 of the NHI districts and the FS province in 2022 indicate still low levels of compliance with the structural quality standards.<sup>[18,19]</sup> This, in addition to FS low number of nurses per 100,000 may start to indicate why the province is one of the poorer performers. The evaluation of the NHI pilot districts showed that a

large proportion of patients believed the structure of PHC facilities could be improved upon (Figure 9). It is likely, therefore, that a reduction in Programme 8 spending will further slow progress toward attainment of accreditation standards.

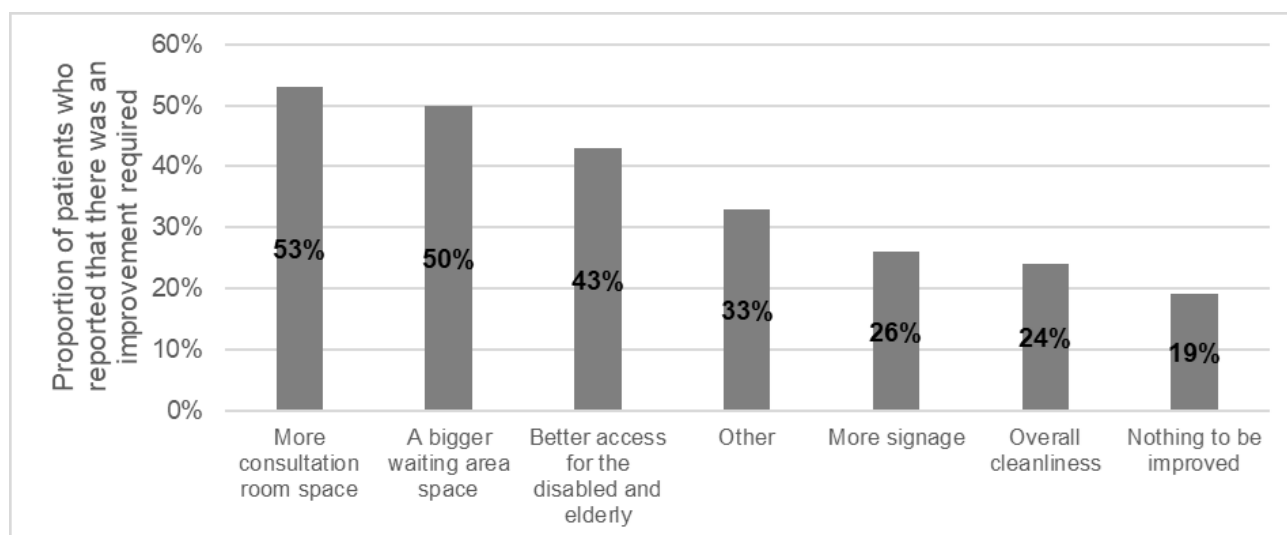


Figure 8: Spending on Programme 8 (health facilities management), by province



Source: Authors own graph based on estimates of provincial revenue and expenditure (EPRE) data provided through National Treasury website for the financial years 2016/2017-2021/2022

Figure 9: Proportion of patients who felt structural elements could be improved



Source: Genesis Analytics, Centre for Health Policy and Insight Actuaries and Consultants. Evaluation of Phase 1 of the National Health Insurance Pilot (2018)<sup>[18]</sup>

## Takeaways

- While the Covid-19 pandemic increased available health budget in FY2020, performance on quality measures all showed declining performance. The decline is attributed to the breakage in routine health services due to the nation-wide lockdowns and the state of emergency and the fact that additional resources were deployed for emergency use.
- Health budgets are not keeping up with demographic and epidemiological changes to the South African population, leading to a real decline in per capita spending on vital sub-populations.
- The increase in case fatality rate for preventable diseases for children aged under 5 is concerning and urgent intervention is required to ensure facilities are resourced to cope with these diseases.
- Child health is at risk due to suboptimal performance on antenatal care coverage and immunisation coverage.
- This study suggests that there is a relationship between the utilisation of PHC facilities and health outcomes. However, more data on the quantity and quality of community-oriented PHC out-of-facility visits is needed.
- Outcome data should be easily accessible by the public to allow healthcare users to hold their health system to account.
- The lack of publicly available data on child deaths in facilities, diarrhoea with dehydration incidence, child underweight for age and other process and structure quality measures is evidence of a system that is not yet oriented toward value.



Photo credit: @UNICEF South Africa/Moulton/2022

04

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Section 4:  
**Consolidated  
health  
spending  
by service  
delivery area**



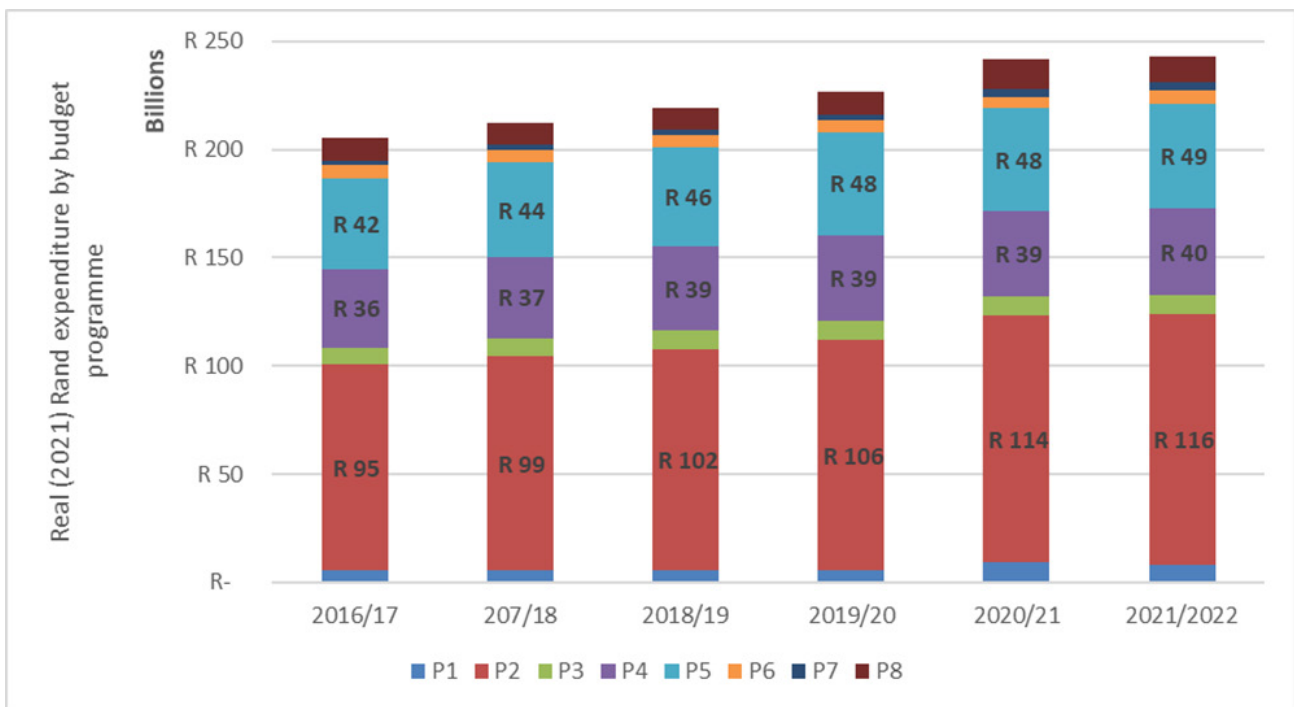
Photo credit: @UNICEF South Africa/Moulton/2022

Over the five-year period depicted in Figure 11 below, the proportion of total provincial spending on primary healthcare has increased, while proportional spending on hospital services decreased. PHC spending has increased from 30 percent - 32 percent in 2020/2021 and hospital services (including level 1 hospitals) has decreased from 54 percent - 52 percent in 2020/2021. Since 1997, South Africa has had a stated policy intention to re-orient its service delivery platform toward primary healthcare (PHC) as the most cost-effective way to maintain and improve population health.<sup>[16,17]</sup> Programme 2 (District Health Services) which houses the PHC budget sub-programmes, shows real Rand growth of ~R21 billion (22 percent) between FY2016 and FY2021. Programmes 4 and 5 (regional, tertiary, and central hospitals) combined have shown real Rand growth of R10.5 billion (13.6 percent) between FY2016 and FY2021 (Figure 10). This reflects the policy shift from a hospital-centric model to a PHC-oriented service delivery model.



Photo credit: @UNICEF South Africa/Moulton/2022

Figure 10: Real expenditure trends by budget programme (in 2022 ZAR)

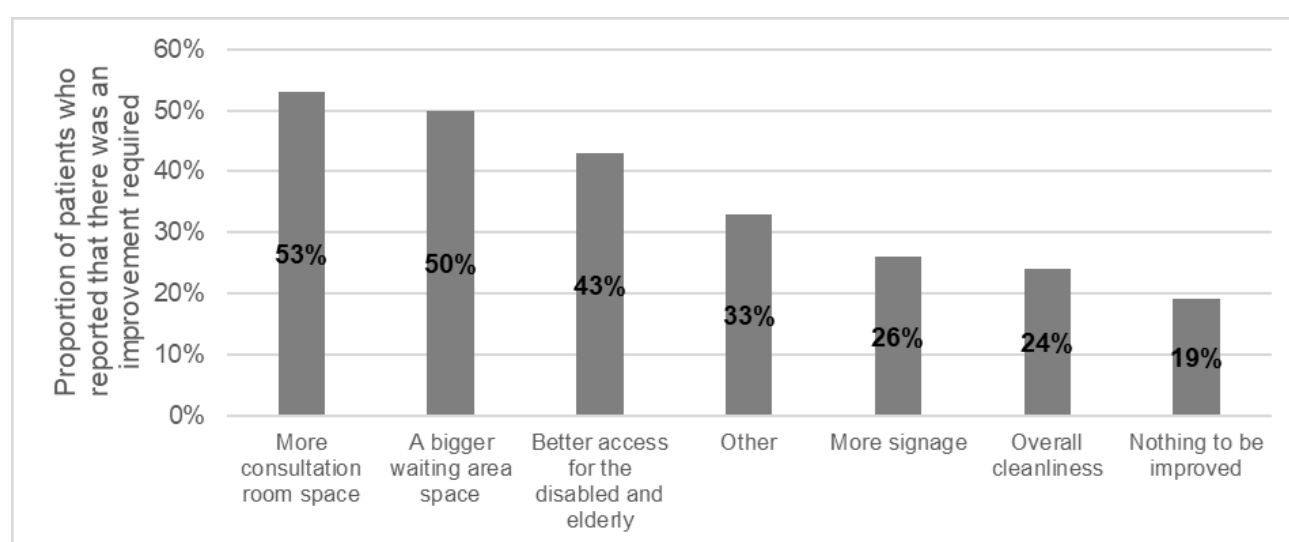


Source: Authors own graph based on estimates of national expenditure (ENE) data provided through National Treasury website for the financial years 2016/2017-2021/2022

PHC spending comprises more than 60 percent of the District Health Services programme expenditure (**Figure 11**), which is positive. Because programme 2 has District hospital expenditure, it is important to review whether the increased funding to programme 2 is being directed to PHC services. PHC expenditure shows roughly 30 percent growth between FY2016 and FY2021 (from R60.7 billion to R78.5 billion in real2021/2022 terms) due to additional

resources being given during the pandemic year. If one excludes the pandemic year, growth between FY2016 and FY2019 was 12 percent. National Treasury's medium term expenditure framework shows negative growth for PHC (2023-2025), with the PHC expenditure expected to go below 2019 levels in 2023/2024 and 2024/2025. This is concerning given the reliance on PHC for population health.

**Figure 11: Proportion of District Health Services expenditure for PHC subprogrammes combined and District Hospital Services subprogramme spending (%)**



Source: Authors own graph based on estimates of provincial revenue and expenditure (EPRE) data provided through National Treasury website for the financial years 2016/2017-2021/2022

**Limpopo (LP), Mpumalanga (MP), and North-West (NW) provinces consistently show expenditure per capita uninsured lower than the national average over the five-year period (Table 4).** Table 4 shows the provincial expenditure per capita uninsured in real Rand terms. The percentages in brackets (in red text) refer to whether the provincial expenditure is higher or lower than the national average expenditure. Although the WC shows expenditure substantially higher than the national average for all five years, the gap between the WC and the national average has been narrowing [19.8 percent above national average in FY2016 as compared to only 7.7 percent in FY2021 (**Table 4**)].

**Often, funding is insufficient to meet population growth which may negatively impact health outcomes.** In **Table 4**, the cells highlighted in red show years where the provinces

expenditure per capita uninsured in real Rand terms declined (i.e., the budget did not keep up with population growth). In FY2021, the EC, MP and NW's small growth in health expenditure were insufficient to accommodate population growth, and their expenditure per capita uninsured was below the national average.

Table 3: Provincial Real expenditure per capita uninsured against national average (ZAR and % growth year on year)

Year	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Eastern Cape	R3 976 (-8.8%)	R4 446 (-0.2%)	R4 654 (2.6%)	R4 626 (1.6%)	R4 783 (0.3%)	R4 566 (-3.6%)
Free State	R4 656 (6.8%)	R4 746 (6.6%)	R4 597 (1.4%)	R4 874 (7.0%)	R4 991 (4.7%)	R5 002 (5.6%)
Gauteng	R4 472 (2.5%)	R4 474 (0.5%)	R4 539 (0.1%)	R4 612 (1.3%)	R4 964 (4.1%)	R4 895 (3.4%)
KwaZulu-Natal	R 4698 (7.7%)	R4 796 (7.7%)	R4 755 (4.9%)	R4 867 (6.9%)	R5 035 (5.6%)	R4 942 (4.4%)
Limpopo	R3 984 (-8.7%)	R 4 050 (-9.0%)	R4 141 (-8.7%)	R4 087 (-10.3%)	R4 254 (-11.0%)	R4 273 (-9.8%)
Mpumalanga	R3 444 (-21.0%)	R3 626 (-18.6%)	R3 680 (-18.8%)	R3 780 (-17.0%)	R3 977 (-16.6%)	R3 956 (-16.5%)
Northern Cape	R5 376 (23.3%)	R5 216 (17.2%)	R5230 (15.3%)	R5 184 (13.8%)	R5 235 (9.8%)	R5 389 (13.8%)
North-West	R3 667 (-15.9%)	R3 599 (-19.2%)	R3 724 (-17.9%)	R3 795 (-16.7%)	R4 067 (-14.7%)	R4 552 (-3.9%)
Western Cape	R5 224 (19.8%)	R5 096 (14.5%)	R5 480 (20.8%)	R5 072 (11.4%)	R5 199 (9.1%)	R5 101 (7.7%)
National average	R 4 362	R4 452	R4 535	R 4 555	R 4 767	R 4 736

Source: Authors own table based on estimates of provincial revenue and expenditure (EPRE) data provided through National Treasury website for the financial years 2016/2017-2021/2022

**Compensation of employees (COE) has the largest real Rand increase in spending between FY2016 and FY2021, but medical supplies has shown the largest proportional growth at 40%, no doubt related to Covid-19.** Vaccines form part of the medicine's expenditure, and the small annual increase in FY2018 and FY2019 may be one of the reasons the country is struggling to meet the 90 percent coverage target for child immunisations (see Section 3). The 'Other Goods and Services' category houses the rest of the 'non-negotiable' goods and services (G&S) and has shown a real Rand increase of roughly R9.1 billion between FY2016 and FY2021.

**The five categories shown in Table 5 make up most health spending (upwards of 93%). The increases in medicines, medical supplies, and G&S: other in 2020/2021 relate**

**to increased expenditure on Covid-19 therapeutics and caring for these patients in public hospitals.**

**At a provincial level, WC shows negative growth in all key cost drivers except medical supplies, between FY2016 and FY2021.** Only GP, LP and NW show growth in expenditure per capita uninsured for all five key cost drivers (Table 5). The cells highlighted in red reflect no, or negative, growth. The cells in green reflect very high growth (above 95 percent). LP's growth in medical supplies in real Rand terms was R71 per capita uninsured in FY2016/ to R182 in FY2021 (+R111), bringing its spending per capita to just above the FY2021 national average per capita uninsured spending of R178 on medical supplies. NW's medical supplies spending per capita uninsured grew by R119 in real terms (R121 in FY2016-R241 in FY2021).



Table 4: Growth in key cost driver expenditure per capita uninsured for the period FY2016 to F2021 (%)

Cost driver growth FY2016 and FY2021	EC	FS	GP	KZN	LP	MP	NC	NW	WC
Compensation of employees	18%	15%	8%	8%	4%	8%	8%	24%	-3%
Medical supplies	22%	9%	29%	13%	155%	-4%	16%	99%	6%
Medicine	31%	-12%	10%	-13%	22%	18%	-6%	31%	-7%
G&S other	18%	6%	14%	16%	23%	32%	12%	40%	0%
Machinery and equipment	-29%	-53%	40%	142%	97%	107%	28%	64%	-17%

Source: Authors own table based on estimates of provincial revenue and expenditure (EPRE) data provided through National Treasury website for the financial years 2016/2017-2021/2022

## Takeaways

- PHC has remained a key priority area and this priority has also been reflected in how funding is allocated.
- Average total expenditure per capita uninsured has grown by 8.6% between FY2016 and FY2021, which reflects a positive trajectory.
- However, LP, MP and NW have shown consistently lower expenditure per capita uninsured as compared to the national average over the five year period.
- Where the expenditure per capita uninsured has shown a Real rand decline between years, this reflects a health budget that is unable to keep up with population growth. Population growth is an easily accessible indicator and could be used to ensure proposed health budgets at a minimum maintain the status quo.
- The increases that were made to the national and provincial health budgets in FY2020 due to the pandemic have resulted in growth in expenditure per capita for all provinces. This was reversed in FY2021

as the country returned to normal services. Therefore, the FY2020 and FY2021 trends should be interpreted with caution.

- The declines in medicine spending must be analysed against indicators such as immunisation coverage to understand the impact on quality, to assess whether the decline in spending has resulted in a decline in health outcomes.



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05

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Section 5:  
**Recommendations  
for improving  
quality in public  
health<sup>iv</sup>**



Photo credit: @UNICEF South Africa/Moulton/2022

### Short-term opportunities (0-6 months)

**Mop-up campaigns are required for routine child health services.** Due to the pandemic, many routine child health services were halted. Although data for FY2021 are not yet available, it is likely that the system has not yet recovered, and a concerted effort (with requisite funding) is going to be required to safeguard children's health.

**Community-oriented primary care (COPC) interventions need to be routinely counted and the outcomes measured to determine cost-effectiveness.** Currently, the COPC budget sits in sub-programmes 2.4 and 2.5 in provinces and real spending nationally is less than R1 billion (2% of total PDoH spending). Out-of-facility interventions are often cited as less costly and more convenient for healthcare users, thereby improving access. To embed this important function, National Government increased community health worker (CHW) stipends to minimum wage to reflect their value (although many argue this is still insufficient). However, PDoHs are not routinely collecting COPC data, and the lack of individualised, clinically coded electronic health records makes it impossible to analyse how the site and type of care influences health outcomes. The NHI policy documentation focuses strongly on outreach services and teams. It is urgent, therefore, that these interventions are monitored and measured to determine whether the investment is prudent. There are already agreed-upon routine indicators for outreach services, the collection of these must be enforced and used for resource allocation decision making to ensure quality data.

### Medium-term opportunities (1-3 years)

**Making service delivery data regularly available and accessible is crucial for quality.** With the incoming NHI, healthcare users and the NHI Fund should be able to easily view providers' performance on quality measures to ensure service quality is standardised across the country. Those with poor performance can be offered support but should performance remain poor, the Fund and healthcare users should be able to divest from these providers. This is only possible if the right data is collected (not just utilisation but outcome measures, too) and then this information is put in the public domain and used for decision-making. Where there is no global target (for example, SDG 2030), the NDoH could set realistic and achievable target ranges and PDoH would then have a better understanding of how they are performing.

**Structural quality deficits identified by the OHSC must be followed through with requisite resources for improvement.** Measuring structural quality with no means for improvement will not improve quality. Structural quality improvements require sufficient budget and oversight to ensure improvements are made efficiently and within a reasonable timeframe, to safeguard the patients who continue to make use of the facilities despite its deficits.

### Long-term opportunities (3+ years)

**The health system should start collecting patient-reported outcome measures (PROMS) to begin the path toward value-based care.** Children are a vulnerable group who often cannot speak for themselves (either due to age, disability, or societal power differentials). Therefore, caregivers should be able to report on their satisfaction with the services provided for their children and the perception of the quality and outcome of health interventions. These can be analysed against clinical health outcomes (for example, severe acute malnutrition) and provide a more holistic picture of the effectiveness of the care provided.

**Resource allocation decisions should be based on both utilisation (demand), demographic and epidemiological profiles (need), and the quality of services provided measured through health outcomes.** This is a long-term opportunity as it is only fair to compare regions based on health outcomes once the playing field in terms of structural quality has been levelled. For example, historically disadvantaged areas will need more resources to get to the same level as more privileged areas. Without this levelling, resource allocation based on outcome data may further perpetuate inequity between regions.

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## Endnotes

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<sup>i</sup> The finance data for the period 2016/2017- 2023/2024 was analysed for this research brief. Finance data is publically available through the National Treasury’s website. Throughout the brief, the financial year 2020/2021 is referred to as the “pandemic year”. This year shows very different financial and health services trends due to the Covid-19 pandemic.

<sup>ii</sup> It is important to note that the ordering and naming of the sub-programmes is not always standard across provinces. For this table, Gauteng’s naming and ordering conventions are used.

<sup>iii</sup> There was no available data for deaths under-1 or under-5 in-facility for the full period studied

<sup>iv</sup> A reminder that quality relates to structure, process and outcome- all three must be optimal to achieve quality healthcare

## Appendix 1: Explanation of budget programmes and sub-programmes

Table 5: Explanation of budget programmes and sub-programmes

Programme	Sub programme
1: Administration	1.1 Office of the MEC 1.2 Management
2: District Health Services	2.1 District management 2.2 Community health clinics 2.3 Community health centres 2.4 Community based services 2.5 HIV and AIDS 2.6 Nutrition 2.7 Coroner services 2.8 District hospitals
3: Emergency Medical Services	3.1 Emergency transport 3.2 Planned patient transport
4: Provincial Hospitals	4.1 General hospitals 4.2 Tuberculosis hospitals 4.3 Psychiatric/mental hospitals 4.4 Dental training hospitals 4.5 Other specialised hospitals
5: Tertiary and Central Hospitals	5.1 Central hospital services 5.2 Provincial tertiary hospital services
6: Health Sciences and Training	6.1 Nurse training colleges 6.2 EMS training colleges 6.3 Bursaries 6.4 Other training
7: Healthcare Support Services	7.1 Laundries 7.2 Food supply services 7.3 Medicine trading account
8: Health Facilities Management	8.1 Community health facilities 8.2 Emergency medical rescue services 8.3 District hospital services 8.4 Provincial hospital services 8.5 Central hospital services 8.6 Other facilities

Source: Authors own table based on Gauteng Provincial Department of Health Estimates of Provincial Expenditure (2022)

## Appendix 2: Dataset used to measure performance

Table 6: Indicators used to measure performance

Type	Indicator	Definition	Source
Outcome measures	Neonatal death in facility rate	Neonatal deaths in health facilities as a proportion of 1,000 live births	Annual South African Health Review
	Child under 5 years severe acute malnutrition (SAM) incidence (annualised)	Child under 5 years with SAM new as a proportion of uninsured children under 5	
	Child under 5 years diarrhoea with dehydration incidence (annualised)	Child under 5 years with diarrhoea and dehydration new as a proportion of uninsured children under 5	
	Immunisation coverage under 1 year (annualised)	Fully immunised children under 1 year as a proportion of total uninsured under 1-year olds	
Structural measures	Ideal clinic status	Number of facilities achieving the Office of Health Standards Compliance (OHSC) requirements to be termed an 'ideal' clinic	Annual South African Health Review
	Nurses per 100k uninsured population (total, under 5 and vulnerable households)	Nurses per 100k uninsured population	Preferred: Annual South African Health Review
Process measures	Antenatal care first visit before 20 weeks	Percentage of pregnant women receiving their first ANC visit prior to reaching 20 gestational weeks	Possible: Annual District Health Barometer and South African Health Review
	Delivery between 10-17 years of age	Proportion of deliveries which were given by children between 10-17 years	
	PHC headcount under 5-years	Number of PHC headcounts for uninsured children under 5	
	Percentage of public sector users very satisfied with service received	Percentage of users of the sector who reported being very satisfied with service received	
	Percentage of private sector users very satisfied with service received	Percentage of users of the sector who reported being very satisfied with service received	



## Appendix 2: Dataset used to measure performance

Table 6: Indicators used to measure performance




Indicator	SDG 2030 target	SDG Goal and number
Inpatient neonatal death rate	12 per 1,000 live births	3.2
Inpatient death under 1 year rate	25 per 1,000 live births	3.2
Inpatient death under 5 year rate	25 per 1,000 per 1000 live births	3.2
Maternal mortality ratio	Less 70 per 100,000 live births	3.1
Child under 5 years severe acute malnutrition (SAM) incidence (annualised)	No specific SAM incidence target, although a stated intention to 'end all forms of malnutrition'	2.2
Child under 5 years diarrhoea with dehydration incidence (annualised)	No specific SDG target WHO's GAPPD recommends a reduction the incidence of severe diarrhoea by 75% in children less than 5 years of age compared to 2010 levels <sup>[19]</sup>	
Immunisation coverage under 1 year (annualised)	No specific target is given for all vaccines combined but a coverage rate greater than 90% is acceptable	3.8
HIV test positive child 12-59 months rate	No SDG target 90-90-90 targets will be used to determine progress	
Ideal clinic status	N/A	
Nurses per 100k uninsured population (total, under 5 and vulnerable households)	N/A	
Doctors per 100k uninsured population (total, under 5 and vulnerable households)	N/A	
Antenatal care first visit before 20 weeks	No SDG target but the 2015 Millennium Development Goals (MDGs) stipulated a 100% target by 2015 which will be used.	
Delivery between 10-17 years of age	N/A	
PHC headcount under 5-years	N/A	
Diabetes new client under 18 years detection rate (annualised)	This relates to SDG 3.4 but there is no target for this particular indicator.	3.4
Child under 2 years underweight for age incidence (annualised)	No specific underweight for age target, although a stated intention to 'end all forms of malnutrition'	2.2



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Quality in health outcomes and health budget frameworks

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