

4TH TRIENNIAL REPORT OF THE COMMITTEE ON
MORBIDITY AND MORTALITY IN CHILDREN UNDER 5
YEARS (CoMMiC): 2017 - 2020

FULL REPORT

December 2020

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LIST OF ABBREVIATIONS

A&E	Accident and Emergency unit
ARI	Acute Respiratory Infection (pneumonia)
ART	Antiretroviral Therapy
CDR	Child Death Review
CEO	Chief Executive Officer
CFR	Case Fatality Rate
Child PIP	Child Healthcare Problem Identification Programme
CHW	Community Health Worker
CoMMiC	Committee on Morbidity and Mortality in Children Under 5 Years
COVID-19	Corona Virus Disease
DCST	District Clinical Specialist Team
DHA	Department of Home Affairs
DHIS	District Health Information Software
DHS	District Health Services
DSD	Department of Social Development
ECD	Early Child Development
EPI	Expanded Programme on Immunisation
ETAT	Emergency Triage, Assessment and Treatment
EMS	Emergency Medical Services
HIV	Human Immunodeficiency Virus
HPCSA	Health Professions Council of South Africa
ICU	Intensive Care Unit
IEC	Information, Education and Communication
IHMR	In-Hospital Mortality Rate
IMAM	Integrated Management of Acute Malnutrition
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
ISHP	Integrated School Health Programme
MNCWH	Maternal, Newborn, Child and Women's Health
NDOH	National Department of Health
NHI	National Health Insurance
NN	Neonate
NNMR	Neonatal Mortality Rate
PCR	Polymerase Chain Reaction

PHC	Primary Health Care
PIIP	Perinatal Problem Identification Programme
PMTCT	Prevention of Mother-to-Child Transmission of HIV
RMS	Rapid Mortality Surveillance
RTHB	Road to Health Booklet
SAM	Severe Acute Malnutrition
SAPS	South African Police Services
SASSA	South African Social Security Agency
StatsSA	Statistics South Africa
ToR	Terms of Reference
U5MR	Under-5 Mortality Rate
Unicef	United Nations Children's Fund
VR	Vital Registration
WBOT	Ward Based Outreach Team
WBPHCOT	Ward Based Primary Healthcare Outreach Team
WHO	World Health Organisation

Provinces:

EC	Eastern Cape
FS	Free State
GP	Gauteng
KZN	KwaZulu-Natal
LP	Limpopo
MP	Mpumalanga
NC	Northern Cape
NW	North West Province
WC	Western Cape
RSA / SA	Republic of South Africa

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DEFINITIONS^{1, 2}

INFANT MORTALITY RATE (IMR)

The probability of dying between birth and exactly one year of age expressed per 1,000 live births, ie the number of deaths of infants aged less than one year per 1,000 live births.

UNDER-5 MORTALITY RATE (U5MR)

The probability of dying between birth and exactly five years of age expressed per 1,000 live births, ie the number of deaths of children aged less than five years per 1,000 live births.

CAUSE OF DEATH

Any condition, which leads to or contributes to death and is classifiable according to the International Classification of Diseases (ICD) system

UNDERLYING CAUSE OF DEATH

The disease or injury which initiated the train of morbid events leading directly to death or the circumstances of the accident or violence that produced the fatal injury (WHO).

INDIRECT CAUSE OF DEATH

Circumstance influencing the wellbeing of children, their access to or the quality of care received, that may have contributed towards the death.

NEONATE (NN)

Birth to 28 days of life

POST NEONATE (PNN)

One month to 1 year of age

UNDER 1 (U1)

The first year of life including both neonates and post neonates

¹ Unicef, The State of the World's Children.

² Burden of Disease Research Unit. Cause of death certification in South Africa: A Booklet for the guidance of Medical Practitioners in completing the Death Notification Form (DNF) – BI-1663. Medical Research Council.

UNDER 5 (U5)

The first 5 years of life including neonates, post-neonates and the one to four year age groups

EXECUTIVE SUMMARY

OVERVIEW OF CHILD MORTALITY IN SOUTH AFRICA

After several years of decline the under-five mortality rate (U5MR) has stabilized and may have increased in the past 2 years. The Rapid Mortality Surveillance (RMS) and the Interagency Group of Mortality Estimates (IGME) estimate the U5MR at 34 to 34,5 per 1 000 live births for 2019 with a neonatal mortality rate, at the population level, around 12 deaths per 1 000 live births.

While these estimates allow tracking at a national level, they do not provide data at provincial and district level and various alternate sources, District Health Information Software (DHIS) and Child Healthcare Problem Identification Programme (Child PIP), have been used to access disaggregated local data. The detailed chapter of each province provides data and analysis of these data. However, the lack of Stats SA data is a major limitation for the reporting period.

From the reporting of the DHIS, the in-hospital deaths that are reported, approximately one third of child deaths occurred in each of the district and regional hospitals and the remaining third in tertiary and central hospitals in the public sector and less than 1% of deaths reported in the DHIS occurred in private hospitals. In 2019 the national in-hospital neonatal mortality rate based on DHIS data is 12,0; the infant mortality rate is 15,1 and the under-5 mortality rate is 16,9. The significant variances between provinces is noted, with the Free State and Eastern Cape having the highest mortality rates, while the Western Cape presenting the lowest mortality rates for the key indicators.

Case fatality rates (CFR) for diarrhoea, pneumonia and severe acute malnutrition have declined over the past five years although the number of deaths from diarrhoea has increased between 2018 and 2019. The Eastern Cape recorded the highest case fatality rate for diarrhoea and Mpumalanga the highest for severe acute malnutrition.

The number of hospitals implementing Child PIP has increased in the reporting period and the most common modifiable factors for each of the domains of the reporting (administrative, clinical care and patient-related factors) have changed little since the inception of the program. The major factors remain delayed seeking of help, inadequate recognition and management of acutely sick children on presentation to the health services,

problems with transfer of children and inadequate recognition of deterioration of children during admission.

The Committee on Morbidity and Mortality in Children under-5 years (CoMMiC) also considered specific focus areas that impact on child mortality and morbidity in greater depth that informed the formulation of the recommendations. These included a reflection on the social determinants of child health including nutrition, non-natural deaths, child health in the community including pre-hospital factors for child mortality, in-hospital factors for child deaths and improving Primary Health Care (PHC) services for children.

IMPACT OF COVID-19

Overall the reporting rate of children infected by COVID-19, at the time of this report, has remained low. However, a number of factors including the social and economic impact of the national lockdown, poor implementation of infection prevention and control strategies and the fear of being infected at health facilities had an overall negative impact on routine child health services. The PHC system has been key in addressing preventative and promotive aspects of health for children and PHC clinic utilization data indicates that the national average of 2.1 visits per annum in 2019 decreased to 1,6 in April 2020. There was a 25% decrease in coverage of most vaccines, raising the possibility of measles outbreaks. Child nutrition, which has a major impact on morbidity and mortality in children, was also affected by the COVID-19 pandemic, with a decrease in the coverage for of vitamin A dispensing and an increase in the SAM CFR, particularly in KwaZulu-Natal, Western Cape and North-West Provinces. The Integrated School Health Program (ISHP) collapsed completely when the schools were closed during the lockdown. However the recovery of the services occurred sooner in PHC than in hospital or community-based services. The longer-term impact of the socio-economic effects of the downturn in the economy, the increase in unemployment rates and decrease in food security in the country is significantly impacting on children and is likely to have a longer-term effect on child health in the country.

IMPLEMENTATION OF PREVIOUS RECOMMENDATION FROM 3RD TRIENNIAL REPORT

Following the recommendations from the 3rd Triennial Report a template covering the six recommendations and the specific actions required was circulated to the provinces for reporting on the progress on the implementation of the recommendations. A summarized report is presented as a table indicating variable progress with the implementation of the recommendations from the previous triennial report.

RECOMMENDATIONS

The recommendations arising from the 2017-2020 Report of the Committee of Mortality and Morbidity in Children are as follows:

1. **Malnutrition:** Prevention, early recognition and management of Severe Acute Malnutrition (SAM);
2. **Deaths outside the health service:** Strengthen community and PHC service management of common childhood illnesses;
3. **Non-natural deaths:** A safe home and social environment for children;
4. **Unreported deaths:** Strengthen civil registration systems;
5. **Pre-hospital modifiable factors:** remove barriers to early entry into health services;
6. **Hospital modifiable factors:** Strengthen capacity of hospitals to take care of acutely sick children;
7. **PHC services for children:** Establish a clear policy and governance framework for PHC services for children.

They are outlined in a table-format below:

RECOMMENDATION	LEVEL	OBJECTIVE	ACTIVITY	RESPONSIBILITY
Malnutrition: Prevention, early recognition and management of SAM	District	Ensure community-based nutrition screening	CHW screening of children under-5	PHC Programme Manager Dietician or Nutrition Manager
	District	Capacitate front line staff in initial management of SAM (clinic and hospital)	ETAT training	DCST
	District		Onsite mentoring and monitoring	PHC: Clinic supervisor / DCST / Dietitian Hospital: DCST/Outreach paediatrician / Dietitian
	Facility		Non-rotation of IMAM trained staff	Nursing and Medical Managers
	Facility	Quality improvement	SAM clinical audits	Medical Manager
	District	Inter-sectoral collaboration	Address social determinants	District Management Team
	District		Scale up feeding programmes	Dietician or Nutrition Manager
Deaths outside health service: Strengthen community and PHC service management of common childhood illnesses	Provincial	Promote early identification of common childhood illnesses	Educate caregivers	Health Promotion and Clinicians
	National		CHWs activities (scope)	
	District		CHWs activities (clinical practice)	PHC Programme Manager
	District		Engagement with Traditional health practitioners	District Director / Manager
	District		Implement IMCI	PHC Programme Manager
	District	Improve case management	PHC clinic pulse oximetry	PHC Programme Manager
	District		PHC practices: IMCI / oral rehydration corners / pulse oximetry / clinic supervision	PHC Programme Manager
	District		District Hospital: implement ETAT / Establish clear referral pathway / functional EMS transfers	District Manager / EMS Manager Facility CEO / Medical Manager
	District	Responsive and accessible health service	Link newborns and children to PHC and WBOTs	PHC Programme Manager / Medical Manager
	Facility		User friendly PHC clinic operating hours	District Director / Manager
	District		Efficient and effective transfer systems	EMS Manager
Non-natural deaths: A safe home and social environment for children	District	Awareness of child safety and injury prevention	Information to expectant mothers	Maternal Health Manager
	National		Information campaigns	Child Health Manager
	National		Implementing a safe home environment	PHC Programme Manager
	District	Burns awareness	Identify local partners for IEC campaigns	Health Promotion
	Provincial	Road safety	Awareness of child restraints & access to car seats	Health Promotion
	Provincial		Liaise with Community Safety to create appropriate interventions, e.g. "Walking buses"	MNCWH Programme Manager

	National	Multi-sectoral interventions	Multi-sectoral child safety and injury prevention policy	MNCWH Directorate
	District		Municipal control of illegal electricity connections	District Director / Manager
	National		Liaise with Department of Transport re law enforcement	MNCWH Directorate
	Provincial	Home safety checks	Tool for home safety checks	MNCWH Programme Manager
Unreported deaths: Strengthen Civil Registration systems	Provincial	Improve birth registration	Information to expectant mothers on requirements for birth registration	MNCWH Programme Manager
	Provincial		Work with DHA to establish DHA offices in every hospital	Hospital Management Services Facility management team
	National	Improve death registration	Expand role of DHA offices to include registration of deaths	MNCWH Directorate / DHA
	National		Explore death registration via community structures	MNCWH Directorate / DHA
Pre-hospital modifiable factors: Remove barriers to early entry to health services	District	Empower and support households	Promote infant nutrition	Dietician or Nutrition Manager
	District		Educate mothers / caregivers re danger signs in RtHB	PHC Programme Manager
	District		Inform mothers / caregivers of health pathways	PHC Programme Manager
	Facility		Ensure every child discharged from hospital has a clear and appropriate discharge plan including advice on when to return	Medical Manager
	District	Strengthen links between community structures/services	Ensure referral pathways and linkages are established and known by community members	District Director / Manager
	District		Establish multi-sectoral forums to identify and support vulnerable households	District Director / Manager
	District		Engage and collaborate with Traditional health practitioners	District Director / Manager

Hospital modifiable factors: Strengthen capacity of hospitals to care for acutely sick children	National	Training	Work with HPCSA and Academic Paediatric Departments to achieve exit competencies in priority programmes	MNCWH Directorate
	Provincial		Ensure in-service training in ETAT and paediatric resuscitation	MNCWH Programme Manager
	Provincial	Resources for acutely sick children	Ensure a provincial plan for paediatric critical care services	Hospital Management Services
	Provincial		Establish 2 functional high care beds in every children's ward	Hospital Management Services
	Facility	Clinical practices	Equitable allocation and non-rotation of clinical staff	Nursing and Medical Managers
	Facility		Ensure effective triage systems in hospitals	Medical Manager
	Facility		Ensure use of early warning scoring systems	Medical Manager
	Facility		Ensure daily ward rounds in children's wards	Medical manager
	Facility		Ensure outreach support to district hospitals	Facility management teams
PHC services for children: Establish a clear policy and governance framework for PHC services for children	National	National Working group on optimising PHC delivery for children		MNCWH Directorate
	National	Undertake a national audit of PHC service delivery for children		MNCWH and PHC Directorates
	National	Incorporate child focussed norms and standards into the Ideal Clinic Project		MNCWH and PHC Directorates

Abbreviations: CEO- Chief Executive Officer; CHW – Community Health Worker; DCST – District Clinical Specialist Team; DHA – Department of Home Affairs; EMS – Emergency Medical Services; ETAT – Emergency Triage, Assessment and Treatment; HPCSA – Health Professions Council of South Africa; IEC – Information, Education and Communication; IMAM – Integrated Management of Acute Malnutrition; IMCI – Integrated Management of Childhood Illness; MNCWH – Maternal, Newborn, Child and Women's Health; PHC – Primary Health Care; RtHB – Road to Health Book; ; SAM – Severe Acute Malnutrition; WBOTs – Ward Based Outreach Teams.

CHAPTER 1: INTRODUCTION

On 24 May 2018 the Honourable Dr A Motsoaledi, Minister of Health of the Republic of South Africa, reappointed the members of the Committee on Morbidity and Mortality in Children Under 5 Years (CoMMiC) to a fourth term of office. The new committee included eleven members who served on the third committee and just two who have served on all four committees to date.

The terms of reference for this fourth committee have retained the primary and secondary objectives of the previous committee and included an additional objective.

The primary objective of CoMMiC is the reduction of childhood morbidity and mortality through a process of death auditing. This process entails:

- Providing an overview of trends, causes and contributory factors to mortality and morbidity in children under 5 years of age through the review of various sources of data and developing recommendations, based on the above review, which would further reduce morbidity and mortality;
- Developing proposals for the implementation of the recommendations.

The secondary objective is to undertake an oversight function with respect to childhood morbidity, mortality and health care to ensure good clinical governance and an appropriate standard of health care for children in South Africa. This oversight role entails:

- Monitoring of the performance of MNCWH programmes at the district, provincial and national levels;
- Monitoring the implementation of CoMMiC recommendations;
- Identifying significant health systems failures and making recommendations to address these;
- Identify good practices and advocating for widespread implementation of these.

The tertiary objective is, when requested, appropriate and feasible, to provide technical advice related to child health to the National and Provincial Departments of Health and other stakeholders.

To fulfil these objectives CoMMiC is required to:

- Establish systems to enable the effective functioning of the committee.

- Submit annual interim and comprehensive triennial reports to the National Minister of Health that:
 - Establish the infant (IMR) and under 5 (U5MR) mortality rates at district, provincial and national levels;
 - Describe the major causes of morbidity and mortality at district, provincial and national levels;
 - Identify indirect, modifiable factors contributing to childhood morbidity and mortality;
 - Make recommendations to reduce childhood morbidity and mortality.
 - Monitor the implementation of these recommendations;
 - Evaluate the status of child health and performance of health services for children.

The experiences of the first three committees revealed that many of the factors that contribute to the deaths of children under five years have not change substantially since the first committee was appointed in 2008. In light of this observation the fourth committee adapted its structure and functioning to better address its mandate and to make informed recommendations to the Minister.

The committee reviewed all previous reports to identify various themes considered to be unresolved features of or contributors to child mortality in South Africa. The following seven themes were identified:

- Malnutrition
- Deaths outside the health services
- Non-natural deaths
- Unreported deaths
- Pre-hospital modifiable factors
- Hospital related modifiable factors
- Primary care for children – including “at risk children”

A review team of three or more committee members was identified for each theme and tasked with:

- Defining the rationale for the selection of the theme;
- Reviewing data, relevant to the theme, from previous CoMMiC reports, published literature and external experts;
- Reporting on the findings from this data;
- Identify likely recommendations or interventions required to address the contribution of the theme to childhood morbidity and mortality in South Africa.

Each theme was discussed over at least two meetings of the committee to allow for adequate reflection, discussion and consensus. The following process was adopted by the committee

First meeting: Presentation of the rationale and baseline data;
Input from external experts;
Discussions to identify possible recommendations.

Second meeting: presentation of reworked recommendations;
Further discussion;
Adoption of the final recommendation and any associated actions.

To ensure early timely adoption of these recommendations the deliberations in each year were included as draft recommendations in each interim CoMMiC report.

All seven themes are included in a standardised format as the primary recommendations of this report.

CHAPTER 2: OVERVIEW OF CHILD MORTALITY IN SOUTH AFRICA: 2017

SUMMARY

- *Following several years of decline, under-five mortality rates have stabilized and may have increased in the past two years.*
- *The increase appears to be related to an increase in deaths during the newborn period.*
- *Lack of access to vital registration data makes it difficult to track trends in child mortality at provincial and district level.*
- *Many child deaths, especially those outside of the newborn period, occur outside of health facilities.*
- *Deaths outside of the newborn period now account for less than one third of all under-five hospital deaths.*
- *The majority of in-facility deaths occur in district and regional hospitals.*
- *The number of deaths due to pneumonia, diarrhoea and severe acute malnutrition and the associated case fatality rates continue to decline.*
- *The proportion of child deaths associated with HIV infection and severe malnutrition has shown a marginal decline; nevertheless, these conditions are still associated with almost one third of deaths in children under-five years of age.*

INTRODUCTION

South Africa is committed to achieving Sustainable Development Goal (SDG) 3.2 which calls for ending preventable child deaths by 2030 as evidenced by an under-five mortality rate of below 25 deaths per 1 000 live births and a neonatal mortality of below 12 per 1 000 live births per year.

South Africa relies on two sources for population-based child mortality estimates, namely Rapid Mortality Surveillance (RMS) conducted by the South African Medical Research Council and the estimates from the United Nations Interagency Group on Mortality Estimates (IGME). The most recent IGME estimates for under-five mortality is 34,5 deaths per 1 000 live births (for 2019), compared with the RMS estimate of 34 per 1 000 live births (for 2018). Estimates from these two sources for the past decade are shown in Figure 1.

Child mortality rates declined over the period, although RMS data suggest that child mortality increased slightly between 2017 and 2018. The U5 mortality rate has declined more steeply, indicating that most of the decline in the under-five mortality has resulted from a reduction in deaths in children 1 – 4 years, with deaths in children under-one declining more slowly. The neonatal mortality rate has remained almost unchanged at around 12 deaths per 1 000 live births during this period.

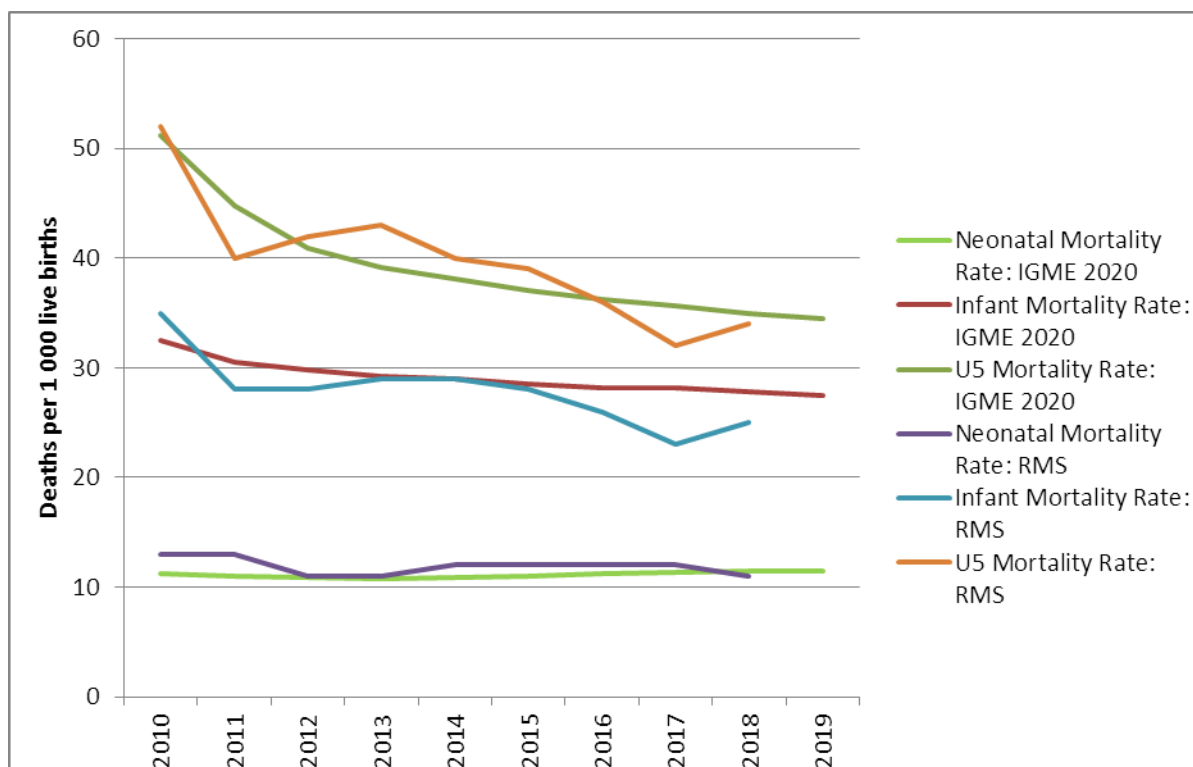


Figure 1: Under-five Mortality Rates, 1990 – 2019

Source: South African Medical Research Council³, Interagency Group on Mortality Estimates⁴

Although the declines in under-five mortality rates are encouraging, it should be noted that they remain far higher than those in other upper middle-income countries. The IGME estimated South Africa's under-five mortality to be 34 per 1 000 in 2018; in contrast China's U5MR was 8 per 1 000, and Brazil's and Mexico's estimated at 14 per 1 000.⁴

It should also be noted that whilst these estimates allow tracking at national level, they do not provide estimates at sub-national (provincial and district) levels. In order to track progress at these levels, CoMMiC has previously relied on vital registration data from Statistics South Africa. Although incomplete, vital registration data allows tracking of progress at district level. However, since 2015, CoMMiC has been unable to access vital registration data directly from Statistics South Africa. This has limited the committee's ability to monitor child deaths at provincial and district levels.

Furthermore, RMS data on adult post-neonatal deaths rely on death registration data obtained from the Department of Home Affairs. Only deaths of children whose births have

³Dorrington R, Bradshaw D, Laubscher R, Nannan N. Rapid mortality surveillance report 2018. Cape Town: South African Medical Research Council; 2020.

⁴ United Nations Children's Fund, World Health Organization, World Bank Group, United Nations Population Division. Levels & Trends in Child Mortality: Estimates developed by the UN Inter-agency Group for Child Mortality Estimation Report 2020. New York: United Nations Children's Fund; 2020.

been registered are counted, resulting in substantial undercounting of neonatal deaths. However, birth and death registration services have been disrupted by the Covid pandemic; as a result, RMS data for 2020 may be incomplete.

DEATHS IN HEALTH FACILITIES

The District Health Information System (DHIS) provides valuable information on child deaths which occur within public sector health facilities in South Africa. The number of under-five deaths recorded in DHIS from 2015 to 2019 is shown in Table 2. The total number of under-five deaths fell between 2014 and 2017, but increased in 2018 and again in 2019 with most of the increase resulting from an increase in deaths during the neonatal period, and to a lesser extent during the period 29 days – 11 months. The number of deaths in children 12 – 59 months continued to decline.

During 2018, approximately 11 850 deaths were recorded in neonates (0 – 28 days) whilst just over 3 000 deaths in children 29 days to one year and just less than 1 750 deaths in children 12 – 59 months were recorded. This means that over 70% of under-five deaths recorded in the DHIS occurred in neonates, whilst just less than one-fifth of under-five deaths occurred in children 29 days to 11 months and only 10% occurred in children 1 – 5 years of age.

IGME also provides information on the estimated number of under-five deaths. It was estimated that 41 000 children under-five years died in South Africa in 2019. These numbers would suggest that only 40% of child deaths are reported through DHIS.

Table 1: Number and proportion of child deaths by age category, 2017 - 2018

	0 - 7 DAYS		8 - 28 DAYS		29 DAYS – 11 MONTHS		12 - 59 MONTHS		TOTAL
	N°	%	N°	%	N°	%	N°	%	N°
2015	9 397	49.3	2 429	12.8	4 216	22.1	3 001	15.8	19 043
2016	8 796	52.5	2 099	12.5	3 349	20.0	2 522	15.0	16 766
2017	8 884	56.1	2 004	12.7	2 749	17.4	2 204	13.9	15 841
2018	9 146	56.1	2 109	12.9	3 053	18.7	1 983	12.2	16 291
2019	9 487	56.7	2 354	14.1	3 168	18.9	1 737	10.4	16 746

Source: DHIS

The provincial breakdown of deaths reported through DHIS for 2019 is shown in Table 2; the pattern is relatively consistent across the provinces, although the proportion of deaths that occur outside of the neonatal period is slightly higher in some more rural provinces (38% in Eastern Cape and North West) compared to urban provinces (27% in Gauteng and 24% in

Western Cape).

Table 2: Number and proportion of child deaths by age category, 2019

PROVINCE	0 - 7 DAYS		8 - 28 DAYS		29 DAYS – 11 MONTHS		12 - 59 MONTHS		TOTAL
	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o
EC	1 061	49.3	267	12.4	590	27.4	236	11.0	2 154
FS	637	58.4	187	17.1	162	14.8	105	9.6	1 091
GP	2 082	56.4	693	18.8	592	16.0	327	8.9	3 694
KZN	1 888	54.0	510	14.6	730	20.9	369	10.6	3 497
LP	1 580	64.4	233	9.5	371	15.1	268	10.9	2 452
MP	797	63.8	118	9.4	210	16.8	125	10.0	1 250
NC	240	55.9	55	12.8	89	20.7	45	10.5	429
NW	552	52.2	111	10.5	219	20.7	175	16.6	1 057
WC	650	57.9	180	16.0	205	18.3	87	7.8	1 122
RSA	9 487	56.7	2 354	14.1	3 168	18.9	1 737	10.4	16 746

Source: DHIS

The number of deaths by age category and province for the period 2015 to 2019 are shown in Figure 2 - Figure 4. Deaths for most age categories in most provinces have declined during the period, especially with regards to deaths outside the neonatal period. As noted above, the number of child deaths increased in 2018 and 2019. It is not apparent if this represented better recording, a higher proportion of deaths occurring in health facilities or a real increase in the number of deaths. It will be important to monitor this closely; it would also be very helpful to triangulate with data from vital registration.

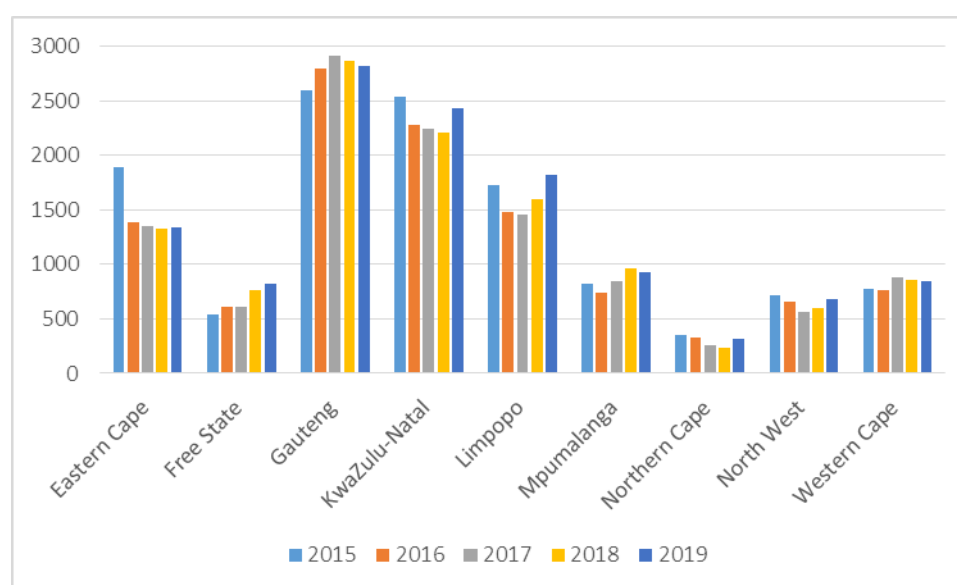


Figure 2: Number of neonatal deaths (0 – 28 days) by province, 2015 – 2019

Source: DHIS

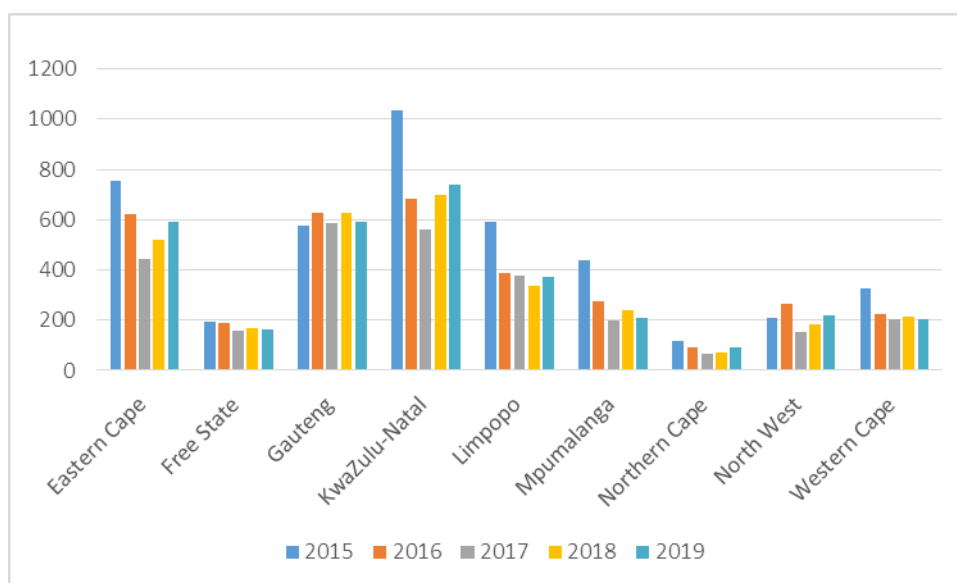


Figure 3: Number of child deaths (29 days to 11 months) by province, 2015 – 2019
Source: DHIS

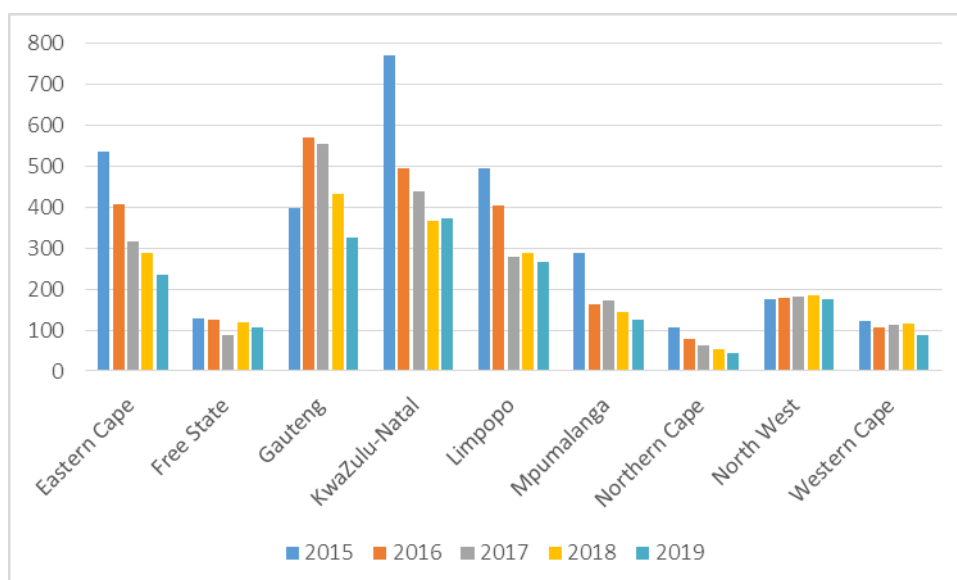


Figure 4: Number of child deaths (12 – 59 months) by province, 2015 – 2019
Source: DHIS

Crude death rates (using the number of live births in facilities as recorded in DHIS) are shown in Table 3. The highest rates are reported in Free State and Eastern Cape, and the lowest rate in Western Cape. However, whilst the Neonatal Mortality Rate is in the same range as population-based estimates, the infant and under-five mortality rates are substantially lower. This reflects the fact that a high proportion of under-five deaths occur outside of health facilities. This again highlights the problem created by lack of data on child deaths from Statistics South Africa – without these figures it is impossible to track progress in reducing child mortality rates at provincial and district levels.

Table 3: Child deaths and under-five mortality rates, 2019

PROVINCE		NMR		IMR		U5 MR	
	BIRTHS	DEATHS	RATE	DEATHS	RATE	DEATHS	RATE
EC	106 055	1 328	12.5	1 918	18.1	2 154	20.3
FS	48 352	824	17.0	986	20.4	1 091	22.6
GP	227 592	2 775	12.2	3 367	14.8	3 694	16.2
KZN	213 869	2 398	11.2	3 128	14.6	3 497	16.4
LP	128 447	1 813	14.1	2 184	17.0	2 452	19.1
MP	82 075	915	11.1	1 125	13.7	1 250	15.2
NC	21 784	295	13.5	384	17.6	429	19.7
NW	60 257	663	11.0	882	14.6	1 057	17.5
WC	102 420	830	8.1	1 035	10.1	1 122	11.0
RSA	990 851	11 841	12.0	15 009	15.1	16 746	16.9

Source: DHIS

CHILD DEATHS BY LEVEL OF CARE

The number and proportion of child deaths by level of care are shown in Table 4. Approximately one third of child deaths occurred in each of district and regional hospitals, with the remaining third occurring in tertiary and national central hospitals. Less than one percent of deaths reported in the DHIS occurred in private hospitals.

Table 4: Number and proportion of child deaths by level of care, 2015 – 2019

	DISTRICT HOSPITAL		REGIONAL HOSPITAL		TERTIARY HOSPITAL		CENTRAL HOSPITAL		PRIVATE HOSPITALS		TOTAL
	N°	%	N°	%	N°	%	N°	%	N°	%	N°
2015	7 147	37.5	5 922	31.1	2 912	15.3	3 049	16.0	13	0.1	19 043
2016	5 862	35.0	5 305	31.6	2 473	14.8	3 119	18.6	7	0.0	16 766
2017	5 209	32.9	5 339	33.7	2 392	15.1	2 875	18.1	26	0.2	15 841
2018	5 516	33.9	5 302	32.5	2 512	15.4	2 870	17.6	91	0.6	16 291
2019	5 650	33.7	5 549	33.1	2 657	15.9	2 778	16.6	112	0.7	16 746

Source: DHIS

The number and proportion of child deaths by level of care and age category are shown in Table 5. The highest proportion of deaths for all age categories occurred at district hospitals, with the exception of late newborn deaths (8 – 28 days) where deaths at district hospital accounted for only 19% of deaths, and more deaths occurred at both regional and central hospitals. A higher proportion of deaths in children older than one month than neonatal deaths occurred in central and regional hospitals.

Table 5: Number and proportion of child deaths by level of care and age category, 2019

AGE	DISTRICT HOSPITAL		REGIONAL HOSPITAL		TERTIARY HOSPITAL		CENTRAL HOSPITAL		PRIVATE HOSPITALS		TOTAL
	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o
0 – 6 days	3 349	35.3	3 324	35.0	1 384	14.6	1 358	14.3	72	0.8	9 487
7 – 28 days	493	20.9	814	34.6	445	18.9	579	24.6	23	1.0	2 354
29 days–11 mnths	1 140	36.0	910	28.7	505	15.9	606	19.1	7	0.2	3 168
11 – 59 mnths	668	38.5	501	28.8	323	18.6	235	13.5	10	0.6	1 737

Source: DHIS

The number and proportion of child deaths by level of care and province are shown in Table 6. In Western Cape and Gauteng, the highest proportion of deaths occurred in central hospitals, whilst in Limpopo and Mpumalanga the majority of death occurred in district hospitals. This suggests that access to higher levels of care may contribute to deaths in provinces such as Limpopo and Mpumalanga.

Table 6: Number and proportion of child deaths by level of care and province, 2019

PROVINCE	DISTRICT HOSPITALS		REGIONAL HOSPITALS		TERTIARY HOSPITALS		CENTRAL HOSPITALS		PRIVATE HOSPITALS		TOTAL
	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o
EC	848	39.4	658	30.5	182	8.4	466	21.6	0	0.0	2 154
FS	161	14.8	521	47.8	210	19.2	144	13.2	55	5.0	1 091
GP	341	9.2	1 362	36.9	477	12.9	1 514	41.0	0	0.0	3 694
KZN	1 317	37.7	1 664	47.6	273	7.8	191	5.5	52	1.5	3 497
LP	1 383	56.4	562	22.9	507	20.7	-	-	0	0.0	2 452
MP	773	61.8	209	16.7	267	21.4	-	-	1	0.1	1 250
NC	149	34.7	51	11.9	229	53.4	-	-	0	0.0	429
NW	394	37.3	262	24.8	397	37.6	-	-	4	0.4	1 057
WC	284	25.3	260	23.2	115	10.2	463	41.3	0	0.0	1 122
RSA	5 650	33.7	5 549	33.1	2 657	15.9	2 778	16.6	112	0.7	16 746

Source: DHIS

The number of child deaths per district is shown in Table 7. Fluctuations suggest issues with data quality, but may also reflect in-migration. This is likely to be an issue in areas where a high proportion of child deaths occur in provincial tertiary and national central hospitals, as reporting through the DHIS has improved in recent years.

Table 7: Number child deaths by district, 2015- 2019

DISTRICT	2015	2016	2017	2018	2019
City of Johannesburg	1 100	1 399	1 343	1 284	1 355
eThekweni	1 473	1 153	977	939	1 202
City of Tshwane	1 008	1 141	1 180	1 224	1 023
Ekurhuleni	955	973	1 042	1 008	977
Oliver Tambo	1 346	1 016	803	860	903
Capricorn	967	825	748	710	830
City of Cape Town	799	768	842	845	821
Ehlanzeni	802	625	602	736	657
Mopani	466	435	358	493	518
Vhembe	572	396	436	391	432
Sekhukhune	438	351	360	384	418
Mangaung	272	274	271	342	417
King Cetshwayo	551	387	387	425	371
Zululand	332	278	294	281	359
Bojanala Platinum	397	377	352	409	348
uMgungundlovu	437	323	291	311	337
Gert Sibande	353	298	313	331	336
Ngaka Modiri Molema	311	335	215	216	320
Buffalo City	372	283	268	319	305
Waterberg	366	267	207	249	268
Nkangala	390	257	300	281	268
Nelson Mandela Bay	528	383	338	301	262
Lejweleputswa	214	253	229	283	254
Thabo Mofutsanyana	194	246	209	261	246
Frances Baard	298	184	196	200	241
Ugu	283	221	222	245	236
Alfred Nzo	249	215	201	233	230
Dr Ruth Segomotsi Mompati	166	170	153	176	219
Sedibeng	314	192	247	211	211
Umkhanyakude	205	181	198	232	199
Uthukela	233	244	236	227	198
iLembe	203	171	188	189	196
Dr Kenneth Kaunda	230	224	182	165	190
Umzinyathi	265	202	162	169	178
West Rand	200	297	249	208	173
Chris Hani	272	242	213	175	170
Fezile Dabi	181	146	135	161	157
Harry Gwala	190	157	155	127	148
Cape Winelands	165	145	151	173	143
Amajuba	179	146	139	137	124
Amathole	196	124	138	93	122
Joe Gqabi	129	83	77	92	100
Garden Route	102	96	118	99	94
Zwelentlanga Fatman Mgcawu	78	77	52	48	74
John Taolo Gaetsewe	117	144	80	54	73
Sarah Baartman	93	69	72	63	72
Pixley ka Seme	56	59	47	30	41
Overberg	69	23	21	25	39
West Coast	67	48	39	30	33
Namakwa	21	33	16	20	21
Xhariep	6	6	10	9	17
Central Karoo	25	11	25	17	13

Source: DHIS

CASE FATALITY RATES

In order to track progress with addressing priority childhood disease, data on the number of deaths and associated case fatality rates for diarrhoea, pneumonia and severe acute malnutrition are collected through the DHIS. National data for 2015 – 2019 and provincial data for 2019 are shown in Table 8 and

Table 9. Over the five-year period, both the number of deaths and the case fatality rates have declined, although the number of deaths from diarrhoea (and the case fatality) increased between 2018 and 2019.

Table 8: Number of deaths and CFR for diarrhoea, pneumonia and SAM, 2015 - 2019

	DIARRHOEA		PNEUMONIA		SAM	
	Deaths	CFR	Deaths	CFR	Deaths	CFR
2015	1 216	2.6	1 349	2.4	1 577	9.8
2016	912	1.9	1 052	2.1	1 223	8.0
2017	637	2.1	859	2.4	907	7.7
2018	619	1.7	965	2.0	787	7.0
2019	732	1.9	829	1.6	826	7.4

Source: DHIS

Table 9: Number of deaths and CFR for diarrhoea, pneumonia and SAM by province, 2019

PROVINCE	DIARRHOEA		PNEUMONIA		SAM	
	DEATHS	CFR	DEATHS	CFR	DEATHS	CFR
EC	167	3.3	142	3.2	148	9.8
FS	27	1.4	46	1.9	49	5
GP	96	1.9	116	1.9	91	6.1
KZN	153	1.7	210	1.7	168	7.6
LP	133	2.8	154	2.7	130	7.6
MP	58	2.5	63	2	69	11.2
NC	16	1.5	29	2.1	33	4.3
NW	71	2.4	42	1.3	134	10.2
WC	11	0.18	27	0.2	4	0.8
RSA	732	1.9	829	1.6	826	7.4

Source: DHIS

The highest number of deaths from diarrhoea was recorded in the Eastern Cape (167) with the province also recording the highest case fatality rate (3,3%). KwaZulu-Natal reported the highest number of deaths from pneumonia, although the case fatality rate in that province was only slightly higher than the national average. Eastern Cape (3,2%), Limpopo (2,7%) and Northern Cape (2,1%)

CHILD PIP DATA

The Child Healthcare Problem Identification Programme is a mortality audit process which aims to improve the quality of care provided to children. Data collected during mortality audits conducted at hospitals are collated into the national child PIP database. Demographic information about each child who dies, as well as information regarding the cause of death, and the child's nutritional and HIV status together with information regarding modifiable factors are collected. Child PIP data only records information about children who die in hospital, and can therefore not be used to calculate population-based mortality rates.

As shown in Table 10, 304 public sector hospitals (out of a total of 332) submitted data during 2019. The proportion of deaths associated with SAM declined slightly, but remained high at 24%. Almost one third of children who died were HIV-infected or exposed, although this proportion has likewise declined slightly in recent years. (It should be noted that although malnutrition and HIV infection commonly contribute to child deaths, Child PIP data does not necessarily indicate causality). The proportion of child deaths which occurred within 24 hours of admission, which is used as a proxy measure of the quality of emergency care in hospitals, remained unchanged over the period.

Table 10: Key child mortality indicators

	2017	2018	2019
N° of hospitals submitting Child PIP data	259	285	304
Proportion of children who died who had severe malnutrition	29.5	25.6	24.0
Proportion of children who died who were HIV Infected or exposed	35.9	32.4	30.5
Proportion of child deaths which occurred within 24 hours of admission	34.2	34.8	33.8

Source: Child PIP data

Information on modifiable factors is shown in Table 11. The number of modifiable factors per death have decreased slightly in recent years; nevertheless, more than three such factors are still identified for each death. This decline is the result of a modest decline in the number of modifiable factors for which clinical personnel are responsible, with the number of modifiable factors per death for administrators and caregivers remaining unchanged.

Table 11: Modifiable factors, 2017 – 2019

	2017	2018	2019
Number of modifiable factors per death	3.4	3.1	3.1
Who was responsible?			
– Clinical Personnel: Modifiable factors per death	1.9	1.6	1.7
– Administrator: Modifiable factors per death	0.5	0.4	0.4
– Caregiver: Modifiable factors per death	1.0	1.0	1.0
Place where modifiable factor occurred (Proportion of total)			
– Ward	26.8%	26.3%	26.4%
– Accident and Emergency Unit/Casualty	21.0%	20.4%	22.5%
– Referring Facility/Transit	7.0%	8.0%	7.5%
– Clinic/OPD	11.7%	11.3%	11.3%
– Home	33.5%	34.1%	32.3%

Source: Child PIP

The most common modifiable factors are shown in Table 12. It should be noted that these common modifiable factors have changed little since the inception of Child PIP.

Table 12: Most common modifiable factors, 2019

PLACE	MOST FREQUENT MODIFIABLE FACTORS
Wards	<ul style="list-style-type: none"> • Lack of High Care and/or ICU facilities for children in own and higher level facility • Inadequate response to new danger sign • Inadequate investigations in ward
Emergency Department	<ul style="list-style-type: none"> • Inadequate notes on clinical care (assessment, management, monitoring at A&E) • Inadequate response to new danger sign • Inadequate investigations (blood, x-ray, other) at A&E
Referring Facility & Transit	<ul style="list-style-type: none"> • No or delayed referral to higher level • Severity of child's condition incorrectly assessed at referring facility • Inadequate referral letter from referring facility
Clinic/OPD	<ul style="list-style-type: none"> • Danger signs missed at clinic/OPD • Child's growth problem (severe malnutrition, not growing well) inadequately identified or classified • Inadequate response to growth faltering or failure, at clinic/OPD
Home	<ul style="list-style-type: none"> • Caregiver delayed seeking care • Caregiver did not recognise danger signs/severity of illness • Child given traditional remedy with negative effect

Source: Child PIP

CHAPTER 3: IMPACT OF COVID-19 ON ROUTINE CHILD HEALTH SERVICES

INTRODUCTION

On 31 December 2019, the World Health Organization (WHO) China country office reported a cluster of pneumonia cases in the city of Wuhan, Hubei Province of China. The causative pathogen was identified as a novel coronavirus (SARS-CoV-2) on 7 January 2020⁵ and on 30 January 2020 the WHO International Health Regulations Emergency Committee declared that the outbreak of Coronavirus Disease (COVID-19) meets the criteria for a Public Health Emergency of International Concern.⁶

On 15 March 2020, after only 61 cases had been confirmed, the President of the Republic of South Africa declared a national state of disaster and immediately imposed restrictions on international travel, the size of public gatherings and school closures. This was followed by the implementation of a national lock-down from 27 March to “flatten the epidemic curve” and to allow for strengthening of healthcare capacity throughout the country. Since then restrictions have gradually been lifted in accordance with the country’s risk adjustment strategy.

Following the declaration of a national state of disaster there was a significant shift in focus of health services towards preparing for and responding to the COVID-19 pandemic to the detriment of child health services despite these being considered as essential services. The poor availability of child health services was aggravated by facility closures due to the infection of staff and lack of understanding of guidelines and compounded by community reluctance to access services due to poor implementation of infection prevention and control measures and fear of being infected in health facilities. These factors had a collective negative impact on routine child health services.

The extent of this impact on routine services will be considered by reviewing select programmes namely primary health care (PHC) utilization; the expanded programme on immunisation (EPI); child nutrition and the integrated school health programme (ISHP).

⁵ WHO, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

⁶ WHO, [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(COVID-19\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(COVID-19)).

PHC clinic utilisation

The PHC clinic is the entry point to the public health service and with respect to children provides preventive and promotive care which is critical to the reduction of child mortality, especially from vaccine preventable diseases, malnutrition, tuberculosis (TB) and HIV. Any reduction in the utilization of PHC services affects access to routine child health services.

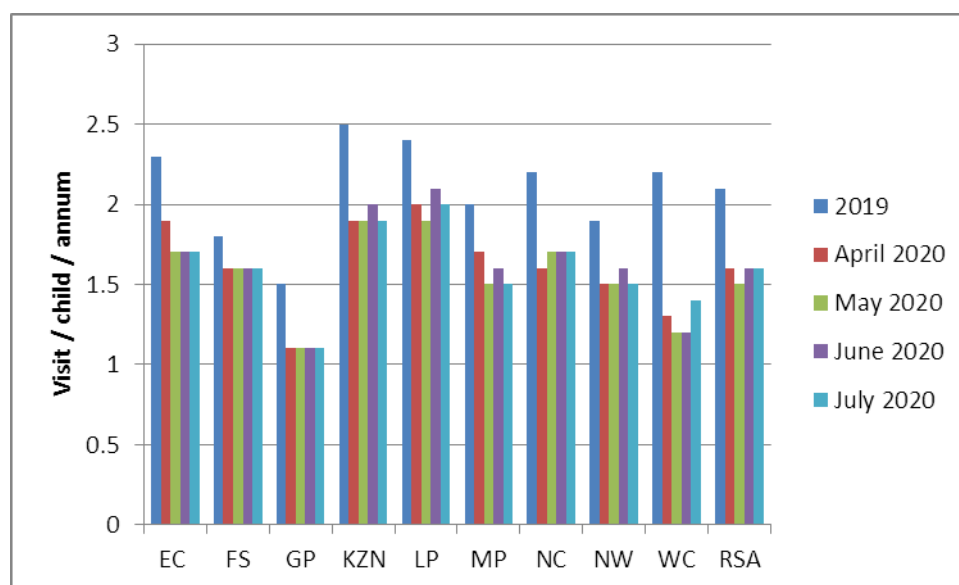


Figure 5: PHC utilisation rate by province

Source: DHIS

Following the introduction of the national lockdown at the end of March 2020 there was a dramatic decrease in PHC utilisation under-5 year rate from the national average of 2,1 visits per child per annum in 2019 to a utilisation rate of 1,6 in April 2020. This reduction is evident across all provinces with little if any recovery in the subsequent three months.

Vaccine coverage

Immediately following the lockdown there was a 25% reduction in coverage of most vaccines, except for BCG, with a rapid recovery of coverage rates in the subsequent months possibly related to the call for the resumption of vaccination programmes on 16 April 2020. The retention of BCG may be due to the fact that this vaccine is offered primary at hospitals where maternity services showed minimal reduction in usage in association with the lockdown, compared to other vaccines which are provided at PHC clinics.

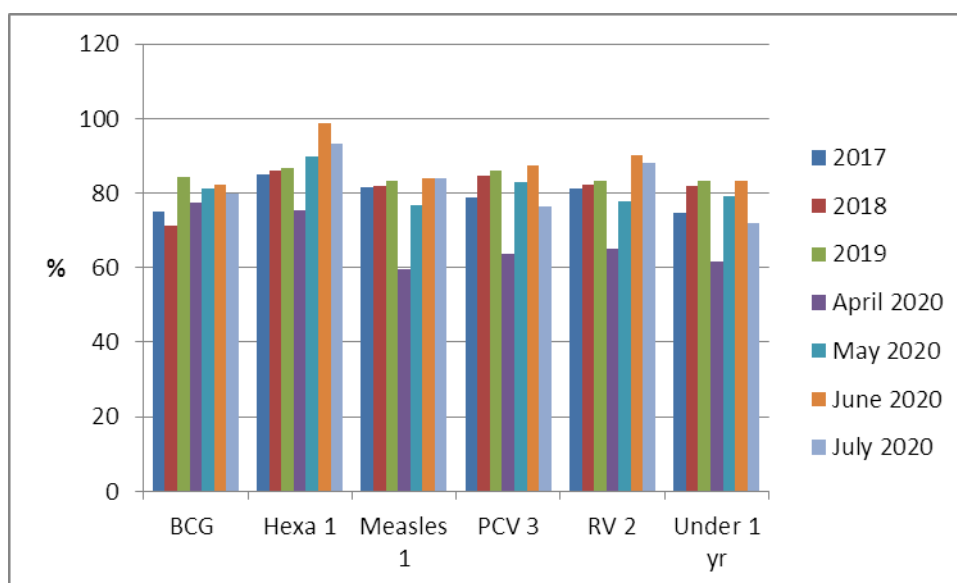


Figure 6: Coverage rates of selective vaccines, RSA
Source: DHIS

This trend of an initial reduction and quick recovery was present across all provinces although the extent of the initial reduction varied between provinces, with a range in reduction of coverage at 1-year from 12,4% in the WC to 40,8% in the NC, and by type of vaccine. The greatest decline in coverage appears to have occurred with vaccines delivered later in the first year of life.

Table 13: Change in vaccine coverage rates by province – April 2020 vs 2019

PROVINCE	BCG	DTAP-IPV-HIB-HBV			FULLY IMMUNISED U 1 YEAR	MEASLES		PCV	RV
		1 ST DOSE	2 ND DOSE	4 TH DOSE		1 ST DOSE	2 ND DOSE		
EC	-9.1%	-7.4%	-15.9%	-21.7%	-16.9%	-15.4%	-14.7%	-19.5%	-12.7%
FS	-18.3%	-8.5%	-16.1%	-12.2%	-20.7%	-10.6%	-12.0%	-21.2%	-18.4%
GP	+8.0%	-18.2%	-21.6%	-33.7%	-28.9%	-29.6%	-31.9%	-27.7%	-20.8%
KZN	-37.9%	-15.3%	-23.1%	-35.8%	-27.6%	-31.1%	-33.9%	-27.9%	-24.2%
LP	-30.7%	-34.7%	-29.2%	-45.0%	-34.7%	-23.6%	-29.5%	-43.7%	-34.4%
MP	-1.5%	-13.0%	-22.3%	-29.4%	-25.9%	-24.0%	-27.4%	-30.1%	-20.8%
NC	-8.1%	-25.2%	-30.1%	-26.4%	-40.8%	-32.5%	-28.6%	-39.7%	-37.4%
NW	43.4%	-12.4%	-39.6%	-32.0%	-26.0%	-33.0%	-38.2%	-20.5%	-32.4%
WC	-7.3%	-28.9%	-34.5%	-43.6%	-12.4%	-34.2%	-41.7%	-36.2%	-34.5%
RSA	15.8%	-18.5%	-24.5%	-33.5%	-25.6%	-27.1%	-30.2%	-29.3%	-24.6%

Source: DHIS

The disruption of immunization services, even for brief periods, will result in increased numbers of susceptible individuals and raises the likelihood of outbreak-prone vaccine

preventable diseases such as measles.⁷ Such outbreaks may result in increased morbidity and mortality, predominantly in young infants and other vulnerable groups, which can cause a greater burden on the health systems already strained by the COVID-19 response.

Child nutrition

High dose vitamin A supplementation combats vitamin A deficiency and decreases overall child mortality by about 30%,⁸ reduces mortality in hospitalized children with measles and is also associated with a reduction of diarrhoea-related mortality.⁹

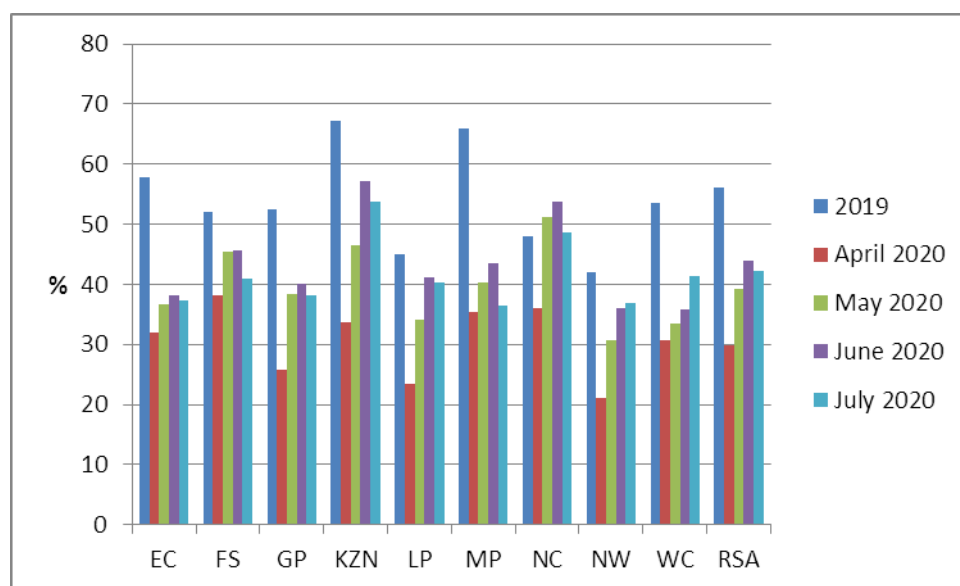


Figure 7: Vitamin A supplementation coverage rates by province
Source: DHIS

The Vitamin A dose 12 - 59 months coverage followed a similar trend to vaccines with a significant reduction in April 2020 followed by some recovery in the subsequent months, although this was much smaller than the recovery of vaccine coverage. This is probably due to the fact that Vitamin A supplementation is provided through ECD centres which remained closed for a longer period than PHC related services as well as the lack of any integration of programmes during contact tracing of COVID-19 cases by ward based primary healthcare outreach teams (WBPHCOT). The slight recovery may be attributed to some integration of priority programs with COVID-19 activities.

⁷ Suk et al. Post-Ebola Measles Outbreak in Lola, Guinea, January–June 2015. *Emerging Infectious Diseases*. 2016; 22(6):1106-1108

⁸ Villamour E, Fawzi WW. Vitamin A supplementation: Implications for morbidity and mortality in children. *J Infect Dis* 2000; 182 (Suppl 1): S122-133.
Ross AC. Vitamin A supplementation as therapy – are the benefits disease specific? *Am J Clin Nutr* 1998; 68: 8-9.

⁹ Ross AC. Vitamin A supplementation as therapy – are the benefits disease specific? *Am J Clin Nutr* 1998; 68: 8-9.

The SAM CFR increased with wide variation between months and across provinces with KZN, WC, MP and NW the worst affected. This initial increase is due largely to a reduction in admission associated with the usual number of deaths.

The diarrhoeal CFR also increased in most provinces with the highest CFRs in the EC and LP. This could possibly be the result of late present to the health service due to poor physical access and reluctance by community members to seek care due to fear of contracting CVOID-19 in health facilities.

Integrated School Health Programme

The ISHP collapsed completely when all schools were closed during lockdown levels 5, 4 and 3. Even with schools re-opening, the planned September HPV campaign has been postponed to a future date due to the COVID-19 pandemic.

Key findings

- There was a substantial reduction in the provision of child health services immediately after the lockdown with poor PHC clinic utilisation and low uptake of routine prevention and promotion programmes.
- The recovery of these programmes occurred sooner in PHC, rather than hospital or community based, services.
- ISHP has not yet recovered.

Recommendations

- The National Department of Health must ensure that managers at all levels in the health service are aware of the need to retain routine child health services and ensure an appropriate allocation of resources to maintain these services across all levels in the health service.
- Provincial Departments of Health must:
 - Ensure the release of the necessary resources and staff required to revive routine child health services, especially community based services.
 - Undertake communication campaigns to inform communities of the availability of routine services, the implications of not using these and the steps taken to mitigate any risk of COVID-19 associated with attendance at a health facility.
- District management teams must initiate catch up campaigns in the worst affected communities in their districts.

CHAPTER 4: PROVINCIAL REPORTS

The following sections are included to provide a more detailed picture of child morbidity and mortality at the provincial and district levels and to try to contextualise these within the local health services.

Data sources used in this chapter to portray the provincial picture include:

- Statistics South Africa (StatsSA) General Household Surveys in 2016 – 2019.
- District Health Barometer: District Profiles.
- StatsSA reports on birth and death registrations for 2015 – 2017.
- The District Health Information Software (DHIS) database up to 2019.
- The Child Healthcare Problem Identification Program (Child PIP) database up to 2018.

The varied sources of data create some discrepancies in the indicators used and a number of the data sources are incomplete, Child PIP being the most obvious.

Although these limitations affect the quality of the available data, we are now approaching a position where we can combine data from different sources in order to describe differences in child mortality and associated or contributing factors between the various districts in the country.

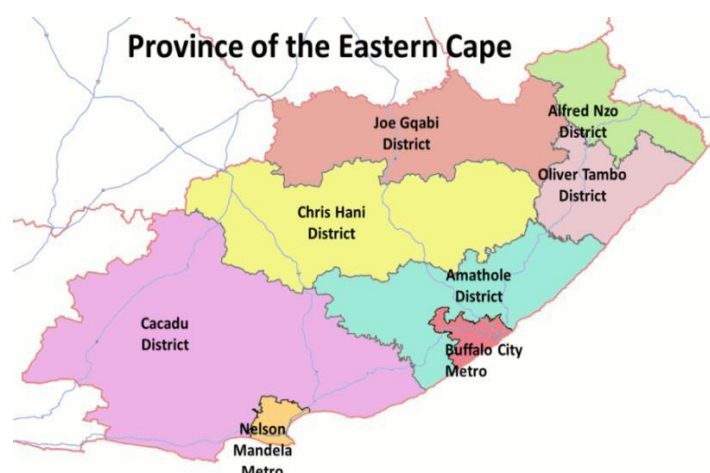
Despite the acknowledged limitations of these data they are presented here in order to make data available at the local level, to promote the practice of using local data for the monitoring and planning of services and to precipitate an improvement in the quality of data being collected.

Additional data, largely from the same sources, is presented in the provincial and district profiles in the Appendices.

EASTERN CAPE PROVINCE

SUMMARY

- The Eastern Cape is the second largest province by area, with the third largest population in South Africa.
- The population density is 43,3 people/km², which is below the national average of 47,9 people/km² and is explained by the vast geographic size of the province.
- The number of children under-5 years is 724 979, which is 9,9% of the total population of the province, and the third largest population of under-5 children in South Africa. OR Tambo, Alfred Nzo and Amathole districts have the highest percentages of children who are under-5 – 13,0%, 13,0% and 12,2% respectively.
- The Eastern Cape has a large rural population as well as significant metropolitan populations in certain districts. These metropolitan areas have informal settlements where many children are subject to poverty, poor access to health care and developing health services. The three districts with the highest number of under-5 children, mentioned above, are all rural.
- The major causes of childhood deaths remain diarrhoeal disease, lower respiratory infections, neonatal disorders, tuberculosis and malnutrition, with HIV still having a major association and contribution to post neonatal deaths. Other less defined causes of death occupy a large proportion of deaths and point to a need for more defined data.
- The infant mortality IHMR (DHIS) seems very unrealistic and significantly low (below 10) and has remained unchanged since 2018. It is even lower than the national average. This suggests underreporting, with data verification being a major challenge.
- There is a gradual increase in the immunization under one year coverage rate, from 63,9% in 2016/17 to 71,9 in 2018/19. However, this remains below the national overage of 81,8 in 2018/19.
- The exclusive breastfeeding at DTaP-IPV-Hib-HBV3rd dose has been gradually increasing, from 32,8% in 2016/17 to 50,0% in 2018/19, and this follows the national trend during the same period.



INTRODUCTION

The population of the Eastern Cape (EC) has a significant rural component, with densities as low as 9,1 people per km² in the Sarah Baartman district. There are also large urbanised areas such as those found in Port Elizabeth (Nelson Mandela Bay) and East London (Buffalo City), where a mixture of formal and informal settlements are found, with high population densities of over 300 people per km². Although OR Tambo district is rural, it is the third highest population dense area due to the informal settlements in Mthatha.

Table 14: Demographics of the Eastern Cape

INDICATOR	EC	ALFRED Nzo	AMATHOLE	BUFFALO CITY	CHRIS HANI	JOE GQABI	NELSON MANDELA	OR TAMBO	SARAH BAARTMAN
Population	7 311 626	879 284	1 002 244	866 514	822 087	377 137	1 320 576	1 320 576	532 051
Population density (people/km ²)	43.3	81.9	47.5	315.1	22.6	14.7	674.8	124.5	9.1
N ^o children < 5 years	724 979	114 307	122 274	87 518	92 896	42 616	133 378	196 525	54 269
N ^o children < 15 years	2 231 248	340 283	365 819	275 551	276,221	125 587	401 455	571 435	167 064
% of pop < 5 years	9.92	13.0	12.2	10.1	11.3	11.3	10.1	13.0	10.2
% of pop < 15 years	30.52	38.7	36.5	31.8	33.6	33.3	30.4	37.8	31.4
Annual births	105 796	13 495	11 016	14 878	11,772	4 566	16 920	27 935	5 214

Source: StatsSA

SOCIAL DETERMINANTS

Only 54,9% of households live in formal dwellings which is the lowest in the country. On average the communities have poor infrastructure (especially in informal and rural settings) with 66,6% of the population still having no access to in-dwelling piped water. There seems to be a discrepancy between households with piped in-dwelling water and households with flushed sanitation. Forty-seven percent have flushed sanitation even though there is only 33,4% with in-dwelling piped water. There are remarkable inequalities within the province. OR Tambo, Alfred Nzo and Amathole have the lowest in-dwellings with piped water and flushed sanitation. This is evident in the mortality rates of children under-five due to diarrheal disease. The province has the highest percentage of the population that is above 20 years with no matric. The unemployment rate is 37,4, which is higher than the national average. The EC has the highest percentage (79,6%) of children living in poverty. The poverty level is high and only 9,8% of the population have access to medical aid (mostly in the metropolitan areas).

Table 15: Social determinants for health

INDICATOR	RSA	EC	FS	GP	KZN	LP	MP	NW	NC	WC
Unemployment rate	29.8	37.4	43.0	26.3	33.0	38.9	31.6	27.4	31.5	21.6
% female headed households	41.3	9.8	41.7	24.6	47.4	48.8	39.7	35.2	15.1	38.0
% living in formal dwelling	79.2	54.9	83.6	81.4	72.7	88.9	84.7	78.3	83.5	82.4
% households with piped water in dwelling	44.4	33.4	37.8	60.0	81.1	13.1	29.0	44.4	43.7	76.9
% households using electricity for lighting	90.3	46.8	93.8	89.7	88.5	90.3	88.9	89.0	88.8	96.6
% households with flush sanitation	78.3	85.2	83.1	89.4	76.6	57.0	65.7	66.3	87.2	90.6
% households with weekly refuse removal	61.0	41.3	69.7	83.6	47.7	21.9	39.4	54.8	61.8	86.8

Source: StatsSA

HEALTH SYSTEMS

The province is comprised of 8 district/metropolitan areas. There are 65 district hospitals, 5 regional hospitals and 4 tertiary public hospitals (providing child health care). There are also 728 Primary Health Care clinics, 41 Community Health Centres and 75 mobile clinics.

Table 16: Health professionals per 100 000 population

CADRE	RSA	EC
Number of Community Health Workers	54 180	4 438
Nursing Assistants	68.3	81.6
Enrolled nurses	62.7	50.8
Professional nurses	144.8	170.9
Dental practitioners	2.5	2.4
Medical practitioners	32	30.8
Medical specialists	9.7	3.0
Total N ^o Paediatricians	1 487	81
Pharmacists	11.6	25.9
Occupational therapists	2.6	2.3
Physiotherapists	3.0	2.6

Source: SA Health Review

The Eastern Cape has various cadres of staff that are above the national norm of staffing per 100 000 population. This is seen with nursing assistants and professional nurses. The Eastern Cape appears to have a much higher number of pharmacists per 100 000 population compared to the national average. However, these pharmacists are mainly concentrated in the metropolitan areas. There are significantly fewer specialists in the Eastern Cape, compared to the national rate.

HEALTH PROGRAMS

The Eastern Cape is below the national average for immunization coverage for children under one year. Nelson Mandela Bay (60,4%) and Sarah Baartman districts (58,2%) are the lowest in this indicator. Sarah Baartman district has many farms that are serviced by mobile clinics. However, these are often unreliable and are not always accessible to the farm workers. Nelson Mandela Bay has many pregnant women who come to deliver in the metro, but then return back to their village or districts post-partum. Buffalo City and OR Tambo have the lowest percentage of infants exclusively breastfed at DTaP-IPV-Hib-HBV 3rd dose, and yet the highest under-5 SAM case fatality rate, namely 30,4% and 45,0% respectively.

Table 17: Select child health indicators, 2018/19

INDICATOR	SOUTH AFRICA	EASTERN CAPE	ALFRED NZO	AMATHOLE	BUFFALO CITY	CHRIS HANI	JOE GQABI	NELSON MANDELA	OR TAMBO	SARAH BAARTMAN
Immunisation under 1 year coverage	81.8	71.9	70.9	68.6	71.1	77.0	63.9	60.4	86.1	58.2
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	49.1	50.0	56.9	56	30.4	56.6	38.6	58.3	45.0	56.2
Measles 2 nd dose coverage	76.0	65.1	69.0	62.3	65.0	68.1	59.4	57.6	71.5	58.8
Vitamin A dose 12 - 59 months coverage	56.7	55.2	60.4	63.7	55.3	61.7	49.4	49.6	51.7	45.8
Infant PCR test positive around 10 weeks rate	0.9	1.20	1.70	1.10	0.62	1.70	1.90	0.82	1.30	0.98
N ^o of HIV +ve children on ART	2 125 296	54 064	33 800	31 856	34 008	32 728	13 288	36 200	58 720	13 464
% with viral load suppression at 12 months	66.3	60.9	61.4	57.5	62.6	55.2	56.3	63.3	66.5	57.7
% children screened at facilities for TB	79.0	74.7	59.4	86.2	62.6	76.3	86.3	77.5	78.5	69.9

Source: DHIS

The diarrheal case fatality rate for the Eastern Cape is above the national level, although there is variation between the districts. OR Tambo and Alfred Nzo districts have the highest case fatality rates of 5,9% and 4,5% respectively. These two districts are rural and have the lowest percentage of houses with piped water in-dwelling and households with flushed water sanitation. OR Tambo and Alfred Nzo districts also have the highest case fatality rate due to pneumonia (5,0% and 4,2% respectively). OR Tambo has also been noted to have the lowest incidence of pneumonia in the province although it has the highest case fatality rate.

This might reflect poor implementation of IMCI or under-reporting. Further investigation is needed to explore the root cause. Nelson Mandela Bay Health District has the highest incidence of pneumonia (30,7), with the second lowest case fatality rate in the province (2,4%). This might reflect early detection of children at risk of pneumonia and early referral. The districts with the lowest exclusive breastfeeding at DTaP-IPV-Hib-HBV 3rd dose have the highest case fatality rate due to malnutrition. Buffalo City has the lowest exclusive breastfeeding at DTaP-IPV-Hib-HBV 3rd dose of 30,4%, yet the highest case fatality rate due to SAM of 17,2%. OR Tambo and Joe Gqabi also have the lowest exclusive breastfeeding rates of 45,0% and 38,6% respectively, with high case fatality rate of 13,1% and 6,8%. Even though Alfred Nzo district has the second highest exclusive breastfeeding at DTaP-IPV-Hib-HBV3rd dose rate, it has one of the highest case fatality rates in the province due to diarrhoea.

MORBIDITY AND MORTALITY PROFILE

The Infant IHMR in the Eastern Cape is 6,7 per 1 000 live births and is below the national level of 12,3. This is very unrealistic and is likely due to gross under-reporting, considering that the Eastern Cape is one of the provinces with the highest neonatal mortality. OR Tambo (10,2), Joe Gqabi (9,4) and Alfred Nzo (8,5) districts have the highest infant IHMR. The under-five IHMR in Eastern Cape (5,1) is above the national average 4,7. OR Tambo, Joe Gqabi and Alfred Nzo have the highest under-five IHMR. A contributing factor to the high numbers in the OR Tambo district is the fact that it is a referral centre. Joe Gqabi and Alfred Nzo have poor access to secondary and tertiary level of care and have no high care beds.

Table 18: Morbidity and mortality profile 2018/19

INDICATOR	SOUTH AFRICA	EASTERN CAPE	ALFRED NZO	AMATHOLE	BUFFALO CITY	CHRIS HANI	JOE GQABI	NELSON MANDELA	OR TAMBO	SARAH BAARTMAN
Diarrhoea inc	7.2	4.9	5.4	5.7	2.8	7.8	6.9	3.5	4.4	3.3
Diarrhoea U5 CFR	1.7	3.0	4.5	2	2.2	1.8	1.9	1.1	5.9	-
Pneumonia inc	27.6	13.8	12.2	8.2	13.1	14.3	9.6	30.7	6.1	20.1
Pneumonia U5 CFR	1.7	3.2	4.2	2.7	1.8	2.4	3.2	2.4	5.0	0.5
SAM inc	2.2	0.6	0.8	0.36	0.3	0.7	1.1	0.5	0.5	1.2
SAM U5 CFR	7.1	8.9	11.1	5.3	17.2	5.7	6.8	0.6	13.1	4.5
INFANT MORTALITY										
Hospital deaths (DHIS)	14 500	1 860	178	92	292	140	79	275	750	54
IHMR (DHIS)	12.3	6.7	8.5	6.0	6.5	4.1	9.4	4.2	10.2	4.2
UNDER-5 MORTALITY										
Hospital deaths (DHIS)	16 491	2 154	219	106	325	171	91	300	882	60
IHMR (DHIS)	4.7	5.1	6.0	3.0	5.4	3.2	5.9	3.3	8.3	2.4

Source: StatsSA

There has been a gradual decrease in the diarrheal case fatality in the province. A focus should be put on districts with the highest mortality rates. The case fatality rate due to pneumonia has remained unchanged over the past three years. The SAM case fatality rate has decreased and has achieved the national target of below 10.

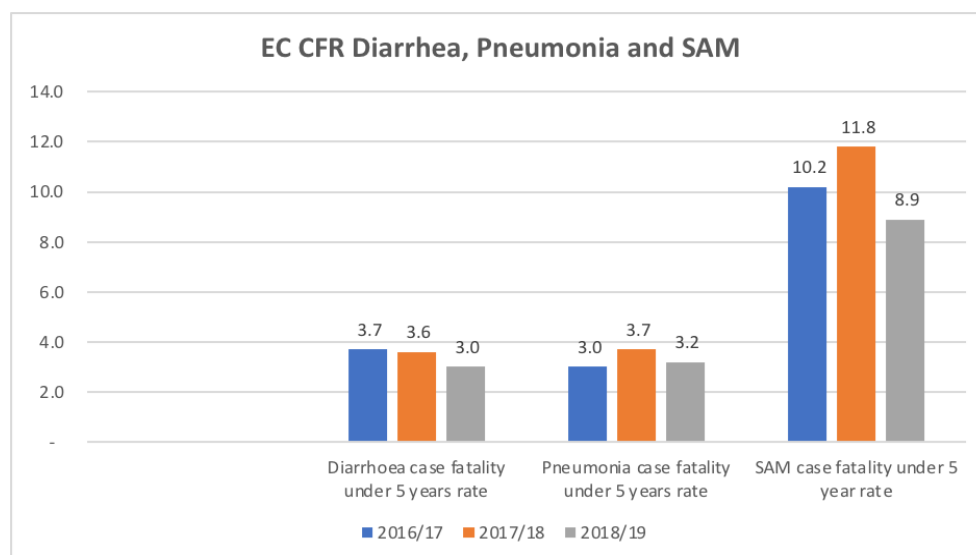


Figure 8: Trend in case fatality rates, 2016/17 – 2018/19

Source: DHIS

More deaths have been noted to be in district hospitals for both infants and children under-5 over the past three years. The focus should be on strengthening the district hospitals through capacity building and support from regional and tertiary hospitals.

Table 19: Causes of death by age group, 2017

CAUSE OF DEATH	UNDER 1	1-4 YEARS	UNDER 5
Intestinal Infections	5.9	7.7	6.5
Tuberculosis	1.0	4.3	2.1
Other bacterial diseases	1.4	0.5	1.1
HIV disease	1.5	1.6	1.5
Other viral diseases	1.1	1.4	1.2
Malnutrition	3.6	4.8	4.0
Influenza and pneumonia	9.6	6.4	8.5
Perinatal conditions	26.8	0.0	17.6
Congenital Disorders	7.8	2.4	6.0
Ill-defined/Miscellaneous conditions	21.7	28.1	23.9
Non-natural	7.4	24.8	13.4
Other	12.1	18.0	14.1

Source: StatsSA

Diarrhoea, pneumonia, malnutrition and neonatal causes of death are the leading causes of death. Other natural causes of death contribute nearly 50% of all under-5 deaths. Non-natural deaths cause a further 14,4% of under-5 deaths, but of concern non-natural deaths contribute 24,8% in 1 - 4 years of age. Ill-defined or miscellaneous conditions also count for more than 20% across the age group categories.

Table 20: Trend in modifiable factor occurrence, 2016 - 2018

MODIFIABLE FACTORS	2016	2017	2018
N ^o hospitals doing Child PIP	42	51	58
% children under-5 who died and had severe malnutrition	25.0	24.7	22.4
% children under-5 who died and were HIV Infected or Exposed	27.2	34.7	34.3
% Deaths within 24 hrs of admission to hospital	45.6	40.2	37.8
Total MFR/death	5.1	3.9	3.6
MFR - Clinical Personnel	2.9	2.1	2.0
MFR - Administrator	0.8	0.7	0.6
MFR - Caregiver	1.3	1.1	1.0
% - Ward	28.7	24.3	25.4
% - A&E	16.6	21.3	20.2
% - Referring Facility & Transit	7.3	8.4	8.3
% - Clinic/OPD	15.9	13.6	14.6
% - Home	31.5	32.4	31.4

Source: Child PIP

There is a gradual decrease in the percentage of children under-5 who died and had severe malnutrition in the province, although there are wide district variations. OR Tambo and Alfred Nzo districts have the highest percentage of children under-5 who died and had severe malnutrition. Chris Hani and Amathole districts have the lowest percentages in 2018, with 16 and 12,7 respectively. The percentage of children under-5 who died and were HIV infected or exposed remains high in the province. Joe Gqabi has a marked increase from 13,3% in 2016, 36,0% in 2017, to 73,3% in 2018. There is a gradual decrease in the percentage of deaths within 24 hours of admission to hospital in the province. However, it is noted that there is an increase in Sarah Baartman District (50,0% in 2016, 56,3% in 2017 to 58,8% in 2018), followed by Alfred Nzo (40,4% in 2016, 44,7% in 2017 to 47,3% in 2018).

In all districts most modifiable factors occur in A&E and in the wards, with clinical personnel having the highest modifiable factor rate. The most common modifiable factors in A&E include inadequate investigations (blood, x-ray, other), inadequate rehydration plan and inadequate notes on clinical care. Insufficient notes on clinical care in the ward (assess, manage, monitor), lack of High Care/ICU facilities for children, new danger signs

inadequately identified while in ward and inadequate response to new danger signs are the most common modifiable factors in the ward. There is a great urgency to implement previous recommendations on the establishment of paediatric high care beds in each hospital.

RECOMMENDATIONS

Comment on National Recommendations

RELEVANCE TO PROVINCE	CHALLENGES WITH IMPLEMENTATION
Malnutrition Promote the prevention, early identification and comprehensive management of the stabilization phase of children with severe acute malnutrition.	
<p>Ensure community based nutrition screening of all children under 5 years of age by CHWs, CCGs and WBOTs:</p> <ul style="list-style-type: none"> Province needs to intensify early detection by ensuring that all CHWs, CCGs and WBOTs are trained on growth monitoring, use of MUAC and be provided with MUAC tapes. Clear referral pathways and protocols should be made available to all stake holders. <p>Capacitate frontline staff in the initial management of children with SAM:</p> <ul style="list-style-type: none"> 80% of staff working at PHC should be IMCI trained. The facility managers should allocate IMCI trained nurses in EPI and child acute care areas. 80% of staff in A&E should be ETAT trained. Onsite mentoring and monitoring must be provided by DCST, clinic supervisors and program managers. <p>Implement quality improvement protocols for the integrated management of SAM:</p> <ul style="list-style-type: none"> All PHC facilities should audit at least 10 RTHB a month to ensure implementation of growth monitoring. Every SAM admission needs clinical auditing to improve quality of care. All SAM deaths must be audited. SAM discharges needs to be linked to WBOTs teams and be marked as vulnerable households. <p>Collaborate with other government departments to address the social determinants of health:</p> <ul style="list-style-type: none"> Province needs to ensure that there is establishment and launch of war rooms by district managers. 	<ul style="list-style-type: none"> Poor integration of services that are provided by CHW, CCGs and WBOTs. Focus is mainly on HIV/TB than child health services. NGOs push their agenda and provide little or no support to child health. Inadequate number of CHWs to cover vulnerable households. In some districts there is lack of transport, and high crime rates. Incomplete DCST teams affect training and roll out of ETAT training. Onsite mentoring and monitoring is inconsistent due to utilization of DCSTs to other services. Not all staff are IMAM and ETAT trained and many trained staff members rotate to other areas. Lack of ownership of clinical audits by clinical managers War rooms are not fully functional in all districts
Deaths outside : Strengthen the capacity of community and primary health care services to address common childhood illnesses	
<p>Promote the early identification of common childhood illnesses at home, in the community and by primary care and traditional health practitioners:</p> <ul style="list-style-type: none"> Educate caregivers about danger signs and the messages on RTHB. Engagement of Traditional Health Practitioners Implement IMCI Availability of PHC pulse oximetry 	

<p>Improve the case management of pneumonia, diarrhoea and the sick newborn at all levels of care:</p> <ul style="list-style-type: none"> • Every facility should have IMCI guidelines and ensure implementation of guidelines. Oral rehydration corners in each IMCI/EPI room • ETAT posters should be visible in each emergency room and fire drills be conducted once a month on different scenarios by each facility. • Clear referral pathways and support by next level of care • Dedicated maternal, child and neonatal functional fully equipped EMS. Dedicated call center for priority cases. • EMS should be part of mortality and morbidity meetings. <p>Create a responsive and accessible health service with linkages between levels of care, improved access to care and a functional referral pathway:</p> <ul style="list-style-type: none"> • All newborns and hospital discharges should be linked to WBOTs and CHW. • Implement user friendly PHC operating hours. 	<ul style="list-style-type: none"> • There is high turnover of staff • Lack of leadership or champions on the ground. • There are few paramedics in the province and some districts have serious road infrastructure issues
<p>Hospital factors Strengthen the capacity of hospitals to identify and care for acutely sick children.</p>	
<p>Improve undergraduate and in-service training of health professions in childhood emergencies:</p> <ul style="list-style-type: none"> • Ensure in-service training in ETAT and paediatric resuscitation for all interns and nurses. • Nursing colleges to integrate ETAT and paediatric resuscitation in the curriculum <p>Establish provincial plans for paediatric critical care services including a minimum of 2 high care beds in every children's ward:</p> <ul style="list-style-type: none"> • All paediatric and neonatal units should have medical air. • Every hospital must have two functional high care beds according to the norms and standards <p>Hospitals must implement the non-rotation of staff and enforce the use of triage, early warning scoring systems and daily ward rounds in every children's ward:</p> <ul style="list-style-type: none"> • Equitable allocation and non-rotation of clinical staff • Ensure effective triage systems in hospitals • Ensure use of early warning scoring systems • Ensure daily ward rounds in children's wards • Hand over and red flag of critical ill patients • Ensure outreach support to district hospitals 	<ul style="list-style-type: none"> • Non-availability of provincial DCSTs and unclear provincial plan on child health services. • Budget allocation does not prioritize child health needs • Poor infrastructure compromise clinical care. • Leadership at facility does not always prioritize paediatric services, especially during COVID 19 when many paediatric wards were used for adults.

FREE STATE

SUMMARY

- *The Free State Province has a total population of 2 924 685 with the population density of 22,5 people/km² and it is vastly rural with high unemployment rate of 43,0%.*
- *There are 836 122 children under 15 years of age (28,9%) of which 269 566 are under-5 years (9,2%) with 69,9% of children living in poverty and about 18,0% are orphans.*
- *Water shortage, as a result of drought, and sanitation provision are still big problems in some districts like Thabo Mofutsanyana, Xhariep and Fezile Dabi.*
- *There are two tertiary hospitals rendering tertiary and quaternary paediatric services including PICU, four regional hospitals but these are not rendering a full regional package of care, 25 district hospitals with a district hospital per sub-district but they do not render much paediatric services and 222 clinics with > 90% IMCI trained personnel.*
- *There is a general lack of health care workers in the province and the availability of staff is skewed and not equitably distributed with the concentration of skilled, specialized professionals in the Mangaung Metro District which is more urban.*
- *The immunization coverage rate is 77,0%, with the highest infant mortality, under-5 mortality and SAM case fatality rates in the Lejweleputswa and Fezile Dabi districts and low diarrhoea and pneumonia case fatality rates in the rest of the province.*
- *In all the districts the most prominent contributor to deaths among children under-5 is severe acute malnutrition and most of those children who died were HIV infected or HIV exposed.*

INTRODUCTION

The Free State Province has a total population of 2 924 685 with a population density of about 22,5 people/km². The province is largely rural with an economy dependent on farming and mining. There is a high unemployment rate of 43,0% despite of the mining industry as many gold mines have reached the end of their lifespan and have closed. The farming sector uses seasonal employment which keeps the unemployment rate high. The HIV prevalence is still high at about 31% in 2020.

CHILDREN

There are 836 122 children under-15 years (28,9% of the population) of which 269 566 are under-5 years (9,2%) and 69,9% are living in poverty. There are 41,7% of households headed by females which might be due to migrant labour with many men working in the mines. This is similar to other rural provinces like Limpopo and Mpumalanga although they might have other reasons. About 18,0 % of children are orphans which might still be due to the high HIV prevalence and a very high maternal mortality rate in the Free State as

compared to other provinces. A high percentage of 5 - 6 year olds (95,9%) attend ECD centres and 98,1% of children between 7 – 17 years are attending school although 5,9% of the adult population has no schooling. Only 18,5% of children live more than 30 minutes from a health facility.

SOCIAL DETERMINANTS

Although the Free State province is predominantly rural 83,6% of the population live in formal dwellings, 83,1% with flush sanitation, 37,8% have piped water, 69,7% with weekly refuse removal and 93,8% of households using electricity for lighting.

Unemployment is still very high in the Free State at 43,0% with 69,9% of children living in poverty. Unemployment most commonly is found in farming communities and informal settlements. In these communities there are many undocumented people. Many children are also undocumented and therefore are not eligible for social grants or social services.

Water shortage has been a major problem in the Free State especially in the Thabo Mofutsanyana, Fezile Dabi and Xhariep districts. Drought was the contributory factor to the water shortage especially in case of Fezile Dabi and Xhariep.

Sanitation provision is still a big problem in some areas of the Free State. There are areas where pit latrines and bucket toilets are still in use especially in the areas of Thabo Mofutsanyana and Fezile Dabi. In these areas sporadic cases of Hepatitis A infections among children have been reported.

Table 21: Comparison of social determinants of districts in the Free State

DISTRICTS	EMPLOYMENT STATUS	UNEMPLOYMENT RATE	FORMAL DWELLING	INFORMAL DWELLING	ACCESS TO PIPED WATER	NO ACCESS TO PIPED WATER	FLUSH TOILET	PIT LATRINES
Mangaung Metro	211 746	27.7	194 119	32 747	231 704	5 032	149 376	69 243
Lejweleputswa	143 154	36.5	145 013	35 282	184 217	3 860	145 855	18 072
Thabo Mofutsanyana	144 129	35.1	168 374	33 256	212 507	7 111	114 389	78 061
Fezile Dabi	117 732	33.9	120 700	22 254	145 337	1 780	117 213	15 743
Xhariep		35.6	39 893	4 512	41 670	3 097	38 723	2 731
Free State	649 661	32.6	667 734	128 986	818 860	18 554	563 558	184 715

Source: StasSA

HEALTH SYSTEMS

The child health care service provision in the Free State

There are two tertiary hospitals in the Free State located in Bloemfontein in the Mangaung district where tertiary and quaternary services are rendered to the children of the Free State. The child health care services in Mangaung are better than in other districts as it has more personnel and expertise resources. There are four regional hospitals which are located in three of the five districts and Xhariep and Mangaung do not have regional hospitals. Three of the regional hospitals render some package of care which should be rendered in a regional hospital with specialist paediatric care. The specialist services rendered in these hospitals are limited due to lack of medical staff including paediatricians, medical officers and nurses. There is also lack of appropriate equipment for PICU and NICU facilities, especially in the more remote rural district of Thabo Mofutsanyana. There are 25 district hospitals with a district hospital per sub-district but they do not render much paediatric services because of lack of adequately trained and skilled medical personnel. These district hospitals are mostly staffed by junior doctors many of whom are doing community service and also foreign doctors who are not adequately supervised and with limited paediatric experience. There are 37 private hospitals the majority of which are based in Mangaung. The medical aid coverage is 13,5%.

There are 212 PHC clinics and 10 CHCs but only one located in Manguang renders a full package of CHC care. The rest operate as PHCs due to severe shortage of nursing staff. Of the 222 PHCs in the province 75,7% have achieved ideal clinic status.

There are about 2 009 CHWs but the coverage is not adequate in the sub-districts because they are used in multiple health programmes including maternal health, HIV and TB. There is lack of supervision of the teams with many teams not having outreach team leaders. Children at discharge from hospitals are supposed to be attached to the CHWs so that the link to the PHC clinics is maintained. Due to these problems we lose children to follow-up post discharge and there is no link to PHC for continuity of care. This may result in hospital readmissions and deaths of children especially of those with malnutrition.

There is adequate IMCI training and coverage was scaled up to > 90% of personnel working in the primary health clinics. ETAT training is still lagging behind with a lack of ETAT trainers.

There are inadequate PICU services in the province. There are about nine PICU beds in public hospitals and six in private hospitals for the whole province, all are located in Mangaung District. The regional hospitals are not rendering optimal PICU services because

of lack of specialists and in others there are no dedicated beds for children in the hospitals. The high care beds are available in some regional hospitals but are poorly equipped.

Staffing

There is a general lack of health care workers in the province and the availability of staff is also skewed and not equitably distributed. The nursing category has 89,7 professional nurses, 39,4 enrolled nurses and 81,6 nursing assistance per 100 000 population. This is the lowest ratio of all provinces in the country. There are 27,7 medical practitioners, 12,5 medical specialists, of which 6,4 are paediatricians, 3,0 dental practitioners, and 13,8 pharmacists per 100 000 population. There is a critical shortage of allied health care practitioners. There are 3,2 occupational therapist and 3,1 physiotherapists per 100 000 population, but they are critical especially for children with cerebral palsy, trauma and burns rehabilitation, learning disorders and developmental delay. Most of the medical staff are concentrated in Mangaung Metro and the other four districts are poorly staffed especially Thabo Mofutsanyana and Xhariep.

MORBIDITY AND MORTALITY PROFILE

The under-5 mortality rate is comparable to other parts of the country.

Table 22: Uptake of health services and programmes, 2016/17 – 2019/20

	2016/17	2017/18	2018/19	2019/20
Immunization under 1 year coverage in %	68.8	71.2	75.0	77.0
Measles second dose coverage in %	86.2	69.2	72.0	73.2
Vitamin A dose 12 -29 months coverage in %	47.1	47.9	51.3	52.1
Infant PCR test + around 10 weeks rate	1.3	1.3	1.1	0.7
Number of HIV + on ART	30 938	123 752	115 568	126 544
% of children screened at facilities for TB	92.0	76.7	104.6	109.4

Source: DHIS

Table 23: Infant and under-5 mortality rates, 2016/17 – 2019/20

	IMR				U5MR			
	2016/17	2017/18	2018/19	2019/20	2016/17	2017/18	2018/19	2019/20
Mangaung	6.4	8.0	7.2	7.8	4.7	5.7	5.4	5.6
Lejweleputswa	13.0	11.6	12.1	10.1	9.0	8.3	9.2	7.3
Thabo Mofutsanyana	6.4	9.1	7.9	7.2	4.5	5.7	4.8	4.8
Fezile Dabi	11.6	12.5	14.6	10.9	6.1	6.4	7.6	6.1
Xhariep	2.9	3.1	1.4	1.3	1.3	1.8	1.1	1.2
Free State	8.3	9.4	8.8	8.2	5.5	6.2	5.9	5.5

Source: DHIS

Table 24: Diarrhoea and pneumonia under-5 years case fatality rates, 2016/17 – 2019/20

	DIARRHOEA CASE FATALITY U5R				PNEUMONIA CASE FATALITY U5R			
	2016/17	2017/18	2018/19	2019/20	2016/17	2017/18	2017/18	2019/20
Mangaung	2.8	4.3	0.8	1.1	1.6	2.1	2.1	2.1
Lejweleputswa	2.7	1.7	1.4	0.7	4.6	2.9	2.9	1.3
Thabo Mofutsanyana	5.2	0.8	0.56	0.86	0.99	3.4	3.4	1.3
Fezile Dabi	0.6	3.5	2.5	1.5	7.3	6.0	6.0	4.1
Xhariep	-	1.3	1.1	1.5	1.8	-	-	1.7
Free State	2.8	2.5	1.1	1.0	3.2	2.9	2.9	2.0

Source: DHIS

The high mortalities occur in the regional hospitals because we have a lot of under-performing district hospital and the understaffed PHC services which refer a lot of cases to the regional hospitals. That creates a bottleneck at the regional hospitals with overcrowding and poor management of children which is compounded by lack of medical staff including doctors and nurses.

Causes of death

In all the districts the most prominent cause (and contributor) to deaths among children under-5 is severe acute malnutrition. Although the SAM incidences are not that high the case fatality rate is very high in all the districts. Lejweleputswa is leading with the SAM case fatality rate. The pneumonia incidences are high but the pneumonia case fatality rate is low. The third cause of death is diarrhea. Most of the children who died were HIV infected or HIV exposed. A high number of children died within 24 hours of admission to hospital.

Table 25: Severe acute malnutrition under-5 years case fatality rate, 2016/17 – 2019/20

	2016/17	2017/18	2018/19	2019/20
Mangaung	5.7	4.5	4.7	6.4
Lejweleputswa	15.8	10.3	13.2	9.9
Thabo Mofutsanyana	11	9	6	6.2
Fezile Dabi	10.2	8.8	15.8	6.5
Xhariep	2.4	3.6	0.4	1.2
Free State	9.6	7.5	6.2	5.8

Source: DHIS

Modifiable factors

There are 28 hospitals out of 32 who are participating in the Child PIP program. About 66,5% of the modifiable factors that may contribute to death, occur within the health facility or as a result of the health systems failures. A third of the modifiable causes of death are from home. The most common modifiable factors included under the Home Care are

caregiver delayed seeking care, caregiver not recognizing danger signs or severe illness and caregiver not providing adequate nutrition at home.

The majority of the child deaths in the Free State occur in the regional hospitals where patients are referred from poorly functioning district hospitals. In these regional hospitals most ward modifiable factors contributing to child deaths include inadequate staff allocated to children's wards, inadequate investigations and monitoring in the wards e.g. glucose and temperature monitoring for children with SAM, inadequate identification of danger signs and insufficient clinical care in the wards.

Accident and emergency modifiable factors include no proper history taking, no adequate investigations (x-rays, blood), danger signs not recognized and no triage and classification of critically ill despite presence of danger signs. Most of the district hospitals in the province are staffed by junior doctors and foreign doctors who lack experience in child care. This may contribute to most of the referring facilities modifiable factors contributing to child deaths as a result of delay referral to higher level of care, emergency or priority care not provided, severity of child's condition incorrectly assessed and inadequate notes including the referral letter.

RECOMMENDATIONS

Comment on National Recommendations

RECOMMENDATION	RELEVANCE TO THE PROVINCE	CHALLENGES WITH THE IMPLEMENTATION
Malnutrition	Malnutrition is the leading contributor of child deaths in the Free State.	Undocumented children in the farms and informal settlements especially from the neighbouring countries like Lesotho and Mozambique.
Death outside	More than 50% of child deaths occur outside the health facilities in the FS.	Lost to follow-up of children discharged from hospitals due to inadequate household coverage of the CHWs.
Unreported deaths	There are a lot of unreported deaths especially in the rural districts.	Lack of home affairs offices in remote and rural areas. Births and Deaths registrations are not usually done because of the remoteness of the Home Affairs offices. Deaths registration born to undocumented foreign national is a challenge. Births and Deaths registration of babies born on weekends, public holidays and in the evening is a challenge because Home Affairs officials are not available

		during these days.
Non-natural deaths	Non-natural deaths occur although under-reported especially if they occur outside the health facilities.	Underreporting of child abuse and child neglect. Encouraging the community to keep their homes safe for children.
Prehospital factors	Prehospital factors are linked to poor access to health facilities and delayed seeking care because of the remoteness of some health facilities.	Linkages of hospital to PHCs services through CHWs is inadequate. Lack of supervision of the CHW teams.
Hospital factors	Districts hospital not functioning optimally and overcrowded and understaffed regional hospitals contribute to high hospital factors in the FS.	Shortage of staff. Child health services not prioritized. The challenge of recruiting doctors and nurses to work in rural areas.
PHC services for children	There is decrease under-5 PHC utilization rate in the FS. This is caused by vaccines stock-outs, not accessible services after hours etc.	<ul style="list-style-type: none"> • Critical shortage of staff. • Lack of leadership in PHCs which result to stock-outs of vaccines.

GAUTENG PROVINCE

SUMMARY

- *In 2017, 4 732 children aged under five years died in Gauteng, a 39% decrease from 2014.*
- *Under-5 and infant (under-1) mortality rates continued to decline during the triennium, albeit slowly, and in 2017 were 28,8 and 22,9 per 1 000 live births, respectively.*
- *The major recognised causes of death in 2017 for under-5's in Gauteng, according to StatsSA data, were neonatal conditions (37%), congenital disorders (10%), pneumonia (7%), non-natural causes (8%), and gastroenteritis (4%).*
- *In-hospital case fatality rates for severe acute malnutrition, pneumonia and diarrhoea showed a downward trend from 2013 to 2019.*
- *Less inter-district variability was noted during this triennium, although differences persist, particularly in staffing ratios.*
- *The province has the highest percentage (89%) of PHC clinics certified as being Ideal Clinic compliant in the country, with two districts being 100% compliant.*
- *Immunisation coverage improved significantly during the current triennium following a serious decline in the previous triennium.*

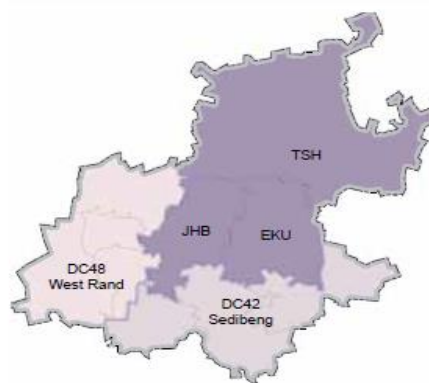
Key recommendations:

- *Improve management of, and accountability for, routine child health services*
- *Co-ordinate community health worker (WBOT) delivery of child care in every district*
- *Synchronise delivery model of child primary health care services*
- *Generate greater provincial support for co-ordinated child health services*

INTRODUCTION

Gauteng province is the smallest but most urbanised and populous province in South Africa. Some 15,5 million people live in an area of 18 179 km² (representing just 1,5% of the country's land mass) and with a population density of 790/km². It is the quickest developing region in the nation, with a quarter (24,5%) of the country's population residing there. This includes about 1,3 million children younger than 5 years (9% of the population) and 3,6 million under the age of 15 years (25% of the population).

Gauteng province contributes about 45% of South Africa's total economic output. A quarter (26%) of the population aged 15–65 is unemployed. The child poverty rate (44%) - while still high - is lower than all but one other province. Compared to other provinces, Gauteng offers better access to good housing and essential household infrastructures, and generally better standards of living. Residents have good access to piped water (60%), a flush toilet (89%), at least once weekly refuse removal (84%), and electricity (90%).



Gauteng province has five districts (figure 1). Three of the districts (Tshwane, Ekurhuleni and Johannesburg) are also metropolitan regions. The two other districts are Sedibeng and the West Rand. Tshwane is the largest district, while Johannesburg has the most people.

HEALTH SYSTEMS

In 2019, there were 364 primary health care (PHC) clinics, 42 community health centres, 9 district hospitals, 10 regional hospitals and seven central or tertiary hospitals in Gauteng province. Three central or tertiary hospitals each are located in the Tshwane and Johannesburg districts, while Ekurhuleni has one. In addition, there are 170 “other” hospitals, including private hospitals and specialist hospitals.

A quarter of the population (24,6%) have medical aid coverage, the highest proportion in the country. Gauteng province also has the highest percentage (89,2%) of PHC clinics certified as being Ideal Clinic compliant in the country. Two districts had 100% compliance.

Staffing ratios (per 100 000 of the population) are comparable to the national average for most categories of staff, except for medical specialists (which is almost double the national average). Some 254 paediatricians (17% of the national total) are based in the province. West Rand district has the best staffing ratio for almost all categories, the ratio sometimes being almost twice higher in some categories (e.g. professional nurses) than the least resourced district (Ekurhuleni).

Less than 8% of children live further than 30 minutes from a health facility, reflecting the urban nature of the province.

MORBIDITY AND MORTALITY PROFILE

The table below provides mortality related data for Gauteng for the period 2014 to 2019, and includes data from three different data sources.

In 2017, 4 732 children aged under five years died in Gauteng, a 39% decrease from 2014. Under-5 and infant (under-1) mortality rates continued to decline during the triennium, albeit slowly, and in 2017 were 28,8 and 22,9 per 1 000 live births, respectively. The provincial

U5MR and IMR were above the national average. The marked inter-district variability noted in previous reports has disappeared, although one district (Sedibeng) is an outlier. Almost half of deaths occurred outside of health facilities, a notable finding in a highly urbanised province where access to health care should not be a major constraint. Positively, there was a trend towards more deaths occurring within hospitals.

Table 26: Child mortality data, 2014 - 2019

DATA ITEMS	DATA SOURCE	2014	2015	2016	2017	2018	2019
UNDER 5 MORTALITY							
Registered deaths, N ^o	StatsSA	7 699	7 348	5 264	4 732		
Hospital deaths, N ^o	DHIS	3 668	3 577	3 408	3 572	3 518	3 458
Child PIP deaths in hospital, N ^o	Child PIP	537	394	445	505	461	
U5MR, per 1000	StatsSA	39.2	38.2	33.2	28.8		
IHMR, %	DHIS	7.7	6.3	6.7	6.9	6.1	6.4
IHMR, %	Child PIP	1.9	2.1	1.8	2.1	2.2	
Deaths in hospital, %	StatsSA	44.8	52.2	51.1	57.8		
INFANT MORTALITY							
Registered deaths, N ^o	StatsSA	6 147	5 833	5 264	4 732		
Hospital deaths, N ^o	DHIS	3 278	3 178	3 408	3 572	3 518	3 458
Child PIP deaths in hospital, N ^o	Child PIP	393	272	445	505	461	
IMR, per 1000	StatsSA	31.1	30.3	26.2	22.9		
IHMR, %	DHIS			9.7	10.1	10.0	11.0
IHMR, %	Child PIP	2.7	2.5	2.5	2.9	2.8	
Deaths in hospital, %	StatsSA	52.4	56.2	55.8	62.2		
CAUSE OF DEATH (UNDER 5)							
Neonatal disorder, %	StatsSA	29.1	26.9		37.3		
Gastroenteritis, %	StatsSA	8.0	11.4		4.3		
Pneumonia, %	StatsSA	7.2	9.8		6.7		
Ill defined, %	StatsSA	15.4	9.7		15.2		
Malnutrition, %	StatsSA	2.3	8.1		1.2		
Non-natural, %	StatsSA	6.4	7.6		7.6		
Congenital abnormality, %	StatsSA	7.6	4.9		9.9		
Other viral disease, %	StatsSA	1.4	1.5		0.7		
HIV, %	StatsSA	0.8	1.4		0.6		
Tuberculosis, %	StatsSA	0.8	0.7		0.8		
Other bacterial, %	StatsSA	0.1	0.1		2.1		

Abbreviations: Child PIP= Child Problem Identification Programme, DHIS=District Health Information System, IHMR=in-hospital mortality rate, IMR=infant mortality rate, StatsSA=Statistics South Africa, U5MR=under-5 mortality rate.

Source: StatsSA, DHIS, Child PIP

Child PIP data in Gauteng is poorly representative of deaths in the province, encompassing only 17% of under-5 hospital deaths and 12% of all registered deaths. Some twenty (of 27) hospitals submitted child PIP data in 2018, an improvement from previous years. Child PIP data indicate that severe malnutrition remains a significant underlying cause of death. The percentage of deaths attributed to HIV in Gauteng continued to decline owing to successes

in the PMTCT and ART programmes. Mortality within 24 hours of admission remained high at about 30%, reflecting delay in care seeking and/or poor triage and emergency care.

Modifiable factors for deaths were identified through Child PIP. Over a third were ascribed to “ward” factors, mostly related to the inadequate number of high care facilities and insufficient staff numbers with related poor monitoring of sick children. Another third of deaths were the result of “home” factors, mainly due to failure to recognise illness in critically ill children and delays in seeking care.

The major recognised causes of death in 2017 for under-5's in Gauteng, according to StatsSA data, were neonatal conditions (37%), congenital disorders (10%), pneumonia (7%), non-natural causes (8%), and gastroenteritis (4%). Ill-defined causes constituted 15% of deaths. The increasing proportional contribution of neonatal and congenital causes of death and the decreasing contribution of communicable diseases is typical of a province moving towards a higher income setting profile of child deaths. Importantly, both pneumonia and diarrhoea incidence in the province continued to decline.

Case fatality rates for severe acute malnutrition, pneumonia and diarrhoea showed a downward trend from 2013 to 2019, although they fluctuate each year (Figure 9). The case fatality rate for severe acute malnutrition remains unacceptably high.

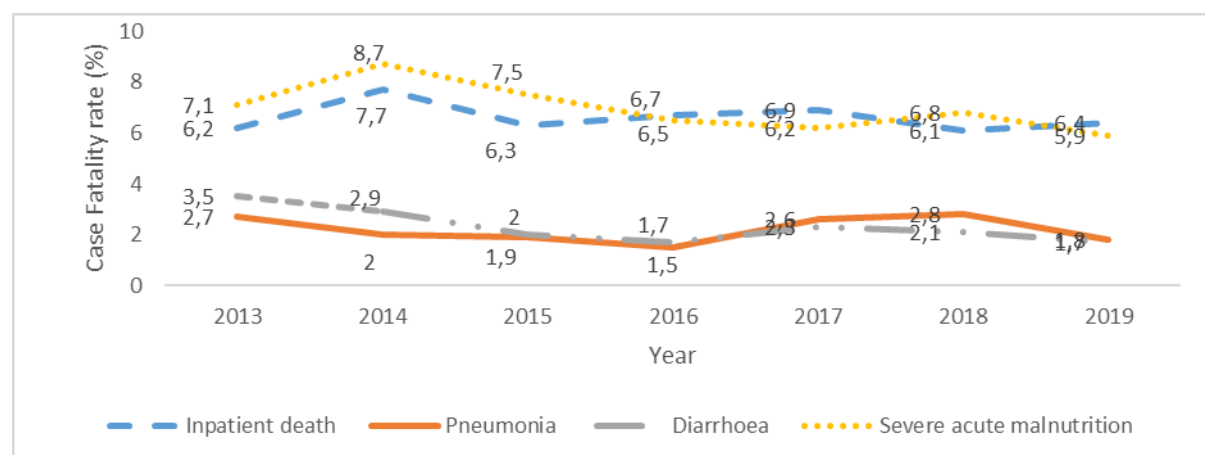


Figure 9: In-patient overall and cause specific case fatality rates, 2013 - 2019

Source: DHIS

DHIS data revealed a dramatic fall in complete under-1 immunisation coverage in all Gauteng districts between 2013 and 2016. However, there has been a gratifying improvement since then with all districts exceeding 83% in 2019 (Figure 10).

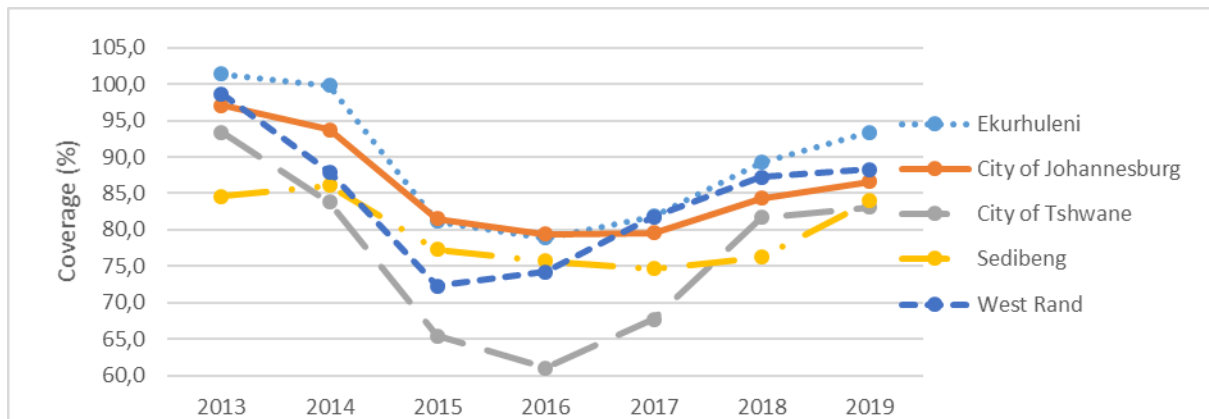


Figure 10: Complete under-1 immunisation coverage by district, 2013 - 2019

Source: DHIS

DISCUSSION

The ability to generate meaningful interpretation of the available provincial data remains problematic owing to the quality of the data. Gauteng province is particularly susceptible to in- and out-migration making population denominators vulnerable to gross undercounting. This under-estimate of the denominator (child population) unduly inflates coverage data but may also falsely exaggerate child mortality rates. The poor implementation of Child PIP further accentuates the reliable data void. Notwithstanding disparities in individual district performance, there is limited data available to interrogate the situation.

Despite Gauteng being the financial hub of the country and the continent, health indicators fail to reflect its economic prosperity, and most child indicators are lodged in the mid-table level in comparison with other provinces. A frequently offered explanation is that the province is burdened with servicing the paediatric needs of neighbouring provinces without adequate financial compensation. While this is true, the disparity between districts, for instance in the U5MR, suggests that determinants intrinsic to the province contribute as much.

The WHO describes six building blocks to a health system. A fundamental building block of the health system is leadership and governance. There is no discernible leadership for child health in Gauteng. Rampant fraud and poor fiscal management coupled with a general lack of accountability for performance have been aggravating factors. The sizeable difference in the human resource ratios in different districts, without overt evidence of better health care delivery in any, suggests that this is another area of neglect, with little attempt to link staffing ratios to identified needs and performance. No significant data management strategies have been introduced in the review period. Neither has any major upgrade of paediatric facilities

or equipment been undertaken. Similarly, while the provincial health budget continues to increase annually, little of this is specifically being directed to meet children's needs. The glaring lack of neonatal beds, with resultant overcrowding and frequent outbreaks of nosocomial infections in neonatal units, has remained unattended to and is an urgent priority. The opening of the new Nelson Mandela Children's Hospital during the review period is a noteworthy event. However, any benefit that children in the province may accrue from this auspicious occurrence has yet to be realised.

Socioeconomic determinants continue to contribute significantly to child mortality in Gauteng despite its status as the wealthiest province in the country. The heavy burden of child malnutrition is a consequence of poverty, the persistent high HIV prevalence in the population, and minimal attempts to systematically improve the nutritional status of children in the province.

One of the modifiable factors regularly identified in provincial Child PIP reviews is the unavailability of a paediatric intensive care unit (ICU) beds when needed. Although Gauteng's bed utilisation rate does not appear high, there are inadequate numbers of available paediatric ICU, high care and neonatal ICU beds. There has been no progress in resolving this deficiency during the past triennium.

Implementation of the re-engineering of primary health care strategies continue, but in the absence of regular audit or monitoring it is difficult to gauge the success of the initiative in the province. District clinical specialist teams are functional in all five districts with almost full staff complements. No report(s) on their achievements or successes is publically available.

RECOMMENDATIONS

There is no evidence that the province has deliberately engaged with the recommendations made in the third COMMIC triennial report. No structure or mechanism exists to replicate COMMIC's role and function at a provincial or district level. Considering the recommendations of the last COMMIC report:

1. There is no evidence that any strengthening of service delivery for children has been data driven.
2. The CHW programme has not embraced child health as a core function.
3. Children with more specialised and long term health conditions have not had greater access to holistic care and services at a district level.

4. There has been no restructuring and transformation of PHC facility based services for children.
5. Provincial or district leadership in Child Health is lacking and a national essential package of services for children remains an elusive ideal.

The implications of the national recommendations for the province are summarised below:

RECOMMENDATIONS	RELEVANCE TO PROVINCE	CHALLENGES WITH IMPLEMENTATION
Malnutrition	SAM case fatality rates remain high in the province. Home screening, earlier identification, triage and protocol implementation require attention.	Little evidence of community health workers engaging with child health. Clinics fail to respond adequately to moderate malnutrition (food supplementation provision minimal or absent) Extent of compliance with SAM protocols unknown. Training related to child health not co-ordinated province-wide.
Deaths outside	Identified barriers resulting in out of health service deaths apply.	Little evidence of community health workers engaging with child health. No uniform or standardized approach to clinical care – clinics and hospitals practice as they wish. Despite relatively easy access to services, quality of care is variable.
Unreported deaths	Birth and death registration difficulties are generic (similar to other provinces)	Reasonable presence of DHA at hospitals. Functionality of DHA can be improved.
Non-natural deaths	High urbanized province increases risk of injuries and non-accidental death.	Recommendations focus on communication and health promotion. Little capacity, budget or will to undertake these at a meaningful level. Limited intersectoral collaboration. Few fora for this.
Prehospital factors	Highly urbanised province, with high density areas and informal settlements	Variable ability to engage households and community
Hospital factors	Need for better trained staff, non-rotation of staff, more regular rounds and high care beds apply	Leadership and coordination of child health services lacking. No provincial paediatrician. DCSTs have minimal involvement in hospital governance and support.
PHC services for children	This requires a national health department response	Implementation problems identified apply to this province too

Key recommendations:

- Improve management of, and accountability for, routine child health services
- Co-ordinate community health workers (WBOTs) delivery of child care in every district
- Synchronise delivery model for child primary health care services
- Offer greater provincial support for co-ordinated child health services

KWAZULU-NATAL PROVINCE

SUMMARY

- *KwaZulu-Natal is the second most populous province in the country with an estimated 11,5 million people, over a third of whom are under the age of 15 years.*
- *The province is the third poorest province in the country with 78,61% of children living in poverty, an unemployment rate of 33,0% and high levels of inequality with some of the most deprived as well as the most affluent districts in the country.*
- *Despite this 81,1% of people in the province have access to piped water, 76,6% to flush toilets and 98,3% of children aged 7 – 17 years are in school.*
- *The majority (88,1%) of the population is dependent of the public health sector and the utilization of health services, particularly PHC services, has continued to increase.*
- *Whilst childhood mortality appears to be decreasing an estimated fifth of childhood deaths are unreported and 58,3% of reported deaths occur inside the health services. Based on death notifications the 2017 infant mortality rate is 16,1 per 1 000 live births and the under-5 mortality rate 21,3 per 1 000 live births.*
- *A major contributor to improved survival is the reduction of mother to child transmission of HIV and an improved nutritional status amongst children.*
- *The pattern of the causes of mortality is changing with a decrease in the proportion of deaths due to gastroenteritis and an increase in the proportion due to neonatal conditions, congenital abnormalities and non-natural causes.*
- *Modifiable factors have not changed substantially over the past few years and a dominant theme is the poor assessment, management and review of critically ill children across all levels within the health service.*

INTRODUCTION

KwaZulu-Natal, the 2nd most-populous province of South Africa, is situated along the eastern shores of the country. It has 10 district municipalities and one metro (eThekweni). The provincial capital, Pietermaritzburg in uMngungunglovu District, and the eThekweni Metro are the 2 largest urban areas in the province. There are numerous towns throughout the province and large tracts of the province are rural, divided between stretches of land falling under traditional authority, commercial farming and nature reserves. Many tracts of land falling under traditional authority are arranged in homesteads (rather than villages) with relatively high population densities dispersed over large geographic areas.

CHILDREN

The population of KwaZulu-Natal constitutes 19,8% of the national population and 21,4% of children of the nation under the age of five years live in KZN. The population of KZN is relatively youthful, as 11,7% of the province's population is below five years of age and more

than a third (34,5%) is below 15 years of age. The higher percentage of children under five and under 15 years of age in the more rural provinces indicates a higher dependency ratio and a lower adult population contributing to economic activity and income.

Table 27: Population profile, by district

DISTRICT	TOTAL POPULATION	% CHILDREN <5 YEARS	% CHILDREN <15 YEARS	UNEMPLOYMENT RATE
KZN	11 565 963	11.7	34.5	33.0
Ugu	796 446	12.3	36.0	35.2
uMgungundlovu	1 184 320	10.8	33.1	30.4
uThukela	767 592	13.6	39.8	39.9
uMzinyathi	578 835	13.1	38.0	36.6
Amajuba	587 033	12.8	37.4	39.1
Zululand	894 124	13.2	37.3	41.1
uMkhanyakude	704 651	13.4	39.1	42.8
King Cetshwayo	1 008 375	13.5	39.4	34.7
iLembe	715 941	11.0	33.3	30.6
Harry Gwala	520 188	14.2	39.2	36.0
eThekwini	3 811 784	9.6	29.4	30.2

Source: StatsSA

SOCIAL DETERMINANTS

Economically, KwaZulu-Natal contributes significantly to the national GDP, with most of the economic activity taking place in the urban areas, particularly eThekwini where Africa's largest harbor is central to the economic activities of the province. However, the economic growth is very unevenly distributed and out of the 10 most deprived local municipalities in the country, five are found in KwaZulu-Natal. The work-related migrancy between rural and urban areas and associated monetary remittances sent to households continues to play an important role for household income and local economy in rural areas. Approximately 72,7% of the population resides in formal housing and 76,6% have access to flush sanitation in their home. The province has a high rate of poverty with 76,8% of children living in conditions of poverty compared to the national average of 65,4%. It is further reflected by high unemployment rates (33,0% of the those actively looking for work not being employed) which are also worse in rural areas, particularly in the former KwaZulu homeland areas. This is reflected in the variation by district in Table above.

The household context for children remains challenging with 17,3% children being orphans (national average is 14,1%) and 47,4% of households being headed by women (national average is 41,3%).

HEALTH SYSTEMS

The health care system in the province is made up of public, private and traditional sectors and is well developed throughout the province. The private sector is concentrated in the urban areas while the traditional practitioners can be found throughout the province. Approximately 88% of the population is dependent on the public sector for formal health care (medical aid coverage of 11,9%).

The public sector facilities cover one central hospital (Inkosi Albert Luthuli Central Hospital) based in Durban, three centres providing tertiary services (King Edward Hospital in eThekweni, Grey's Hospital in uMgungundlovu and Ngwelezane/Queen Nandi Memorial Hospital Complex in Empangeni. The province has 13 regional hospitals and 38 district hospitals that form the basis of the district health service (DHS). These are linked to 597 PHC clinics and 22 Community Health Centres throughout the province. Of the PHC clinics, 76,2% have achieved Ideal Clinic status (varying from 100% in Umzinyathi and Amajuba to 62,3% in Ugu and 60,7% in eThekweni). The community-level care forms an extensive network of 9 780 community health workers across the province as well as school health teams and environmental health services. There is also a strong link with the 'Operation Sukuma Sakhe' as part of the war on poverty, providing the ward-level integrated social support.

Staffing levels

In terms of staffing, overall KwaZulu-Natal has 35,8 doctors and 168,5 nurses per 100 000 population. However, the distribution of the staff remains unequally distributed throughout the province with the majority of staff working in the urban centres. This is also reflected for other health professions

Table 28: Staffing levels per 100 000 population, by cadre and district

DISTRICT	MEDICAL PRACTITIONER	PROFESSIONAL NURSE	DENTIST	PHARMACIST	OCCUPATIONAL THERAPIST	PHYSIOTHERAPIST
KZN	35.8	168.5	1.5	8.6	1.8	3.2
Ugu	30.4	172.1	2.2	10.7	1.4	3.0
uMgungundlovu	60.2	246.1	2.4	10.3	3.9	4.3
uThukela	22.0	119.0	1.4	4.9	1.3	3.2
uMzinyathi	17.3	176.3	1.1	6.6	1.5	2.0
Amajuba	44.7	163.5	1.5	9.0	2.4	3.7
Zululand	14.3	135.1	1.4	6.3	0.9	2.2
uMkhanyakude	11.9	145.3	1.3	6.6	2.7	2.5
King Cetshwayo	36.7	175.0	1.6	7.8	1.2	1.4
iLembe	30.9	131.1	2.0	7.8	1.4	3.2
Harry Gwala	15.9	153.8	1.1	6.9	2.0	2.4
eThekweni	48.7	173.7	1.2	10.4	1.6	4.1

Source: SA Health Review

Access to services

Overall the coverage of services seems to have improved in the period between 2016 and 2019 using the immunization rate as a proxy-indicator which improved from 92,8% to 97,6%. The increased focus on community level care with the support and expansion of the ward-based outreach teams and training of the community health workers seem to have increased appropriate messaging at community level. However, particularly in some rural areas the coverage remains a challenge due to the geographic remoteness and low population densities of communities. Similarly, the access to emergency medical services remains challenging for acutely ill children in remote communities.

MORBIDITY AND MORTALITY PROFILE

Mortality rates

The under-5 mortality rate is continuing to improve having declined from an estimated rate of 29,0 per 1 000 live births in 2015 to an estimated rate of 21,3 per 1 000 live births in 2017, based on Stats SA data. There is considerable variation between districts in the province with eThekweni having an estimated rate of 16,5 and uThukela district recording a rate of 32,3. The Infant Mortality Rate is estimated to be 16,1 per 1 000 live births for the province as a whole which also indicates an improvement from 2015.

As mentioned elsewhere, the figures need to be appraised in the context of continued poor data and a significant number of childhood deaths not being reported. The discrepancies between the vital registration data, DHIS data and community-level survey data continue to point to an overall poor data quality. A comparison of the number of deaths in health facilities reported to vital registration with those captured in the DHIS reveals probable underreporting of neonatal and childhood deaths in vital registration and underreporting of post neonatal deaths in DHIS.

Causes of death in children

The patterns of most common causes of childhood deaths have largely remained stable with gastroenteritis continuing to decline and malnutrition declining in comparison to previous reporting periods.

Table 29: Cause of death in children under-5 years

	2015	2017
Intestinal Infections	10.6	6.6
Tuberculosis	1.4	1.4
Other bacterial diseases	0.0	1.4
HIV disease	1.6	1.0
Other viral diseases	1.8	0.9
Malnutrition	5.3	2.9
Influenza and pneumonia	8.8	7.9
Perinatal conditions	28.6	36.0
Congenital Disorders	5.7	8.1
Ill-defined/Miscellaneous conditions	10.4	13.4
Non-natural	8.7	8.9
Other	10.6	11.6

Source: StatsSA

The Child PIP data derived from regular in depth audits of childhood deaths gives an indication the contributing factors to the child mortality at the participating facilities. It furthermore analyses whether any of the factors were modifiable – and therefore should be the focus of interventions.

Table 30: Top 3 modifiable factors by level of care, 2016 - 2019

Level of care	Modifiable factors over the period 2016-2019
Home	Caregiver delayed seeking care
	Caregiver did not recognise danger signs/severity of illness
	“Traditional remedy” given from traditional healer, with negative effect on child
Clinic	Childs growth problems inadequately identified or classified
	Danger signs missed at clinic / OPC
	Inadequate notes on clinical care (assess, classify, treat) at clinic
A&E	Inadequate investigations (blood, x-ray, other) at A&E
	Not classified as critically ill despite presence of danger signs at A&E
	Emergency signs not recognized in A&E
Ward	Inadequate investigations in the ward
	Other clinical personnel modifiable factor in ward
	Insufficient notes on clinical care in ward (assess, manage, monitor)
Referring facility	Inadequate referral letter from referring facility
	Severity of child’s condition incorrectly assessed at referring facility
	Delayed arrival of ambulance at referring facility

Source: Child PIP

There has been little change in the top-ranking modifiable factors at the various levels of the health care system from the previous reports and in the current reporting period in KwaZulu-Natal. As has been noted in previous reports, across all five levels of care, it is obvious that there is limited capacity to care for acutely ill children. This includes the failure to recognise and act upon the danger signs of severe illness in the home, inadequate recognition of

management and referral at the PHC clinic, incorrect assessment in transit and at the hospital failure to recognise new danger signs and access to high care once presented to the hospital.

A key area of impacting on the morbidity and mortality of children remains the pre-hospital period of care in the development of a severe illness. This may be divided into the immediate factors that contribute to the individual child (and typically analysed as part of the Child PIP process) and the more 'up-stream' factors such as the social determinants of health and disease that have been touched on above. With the increased focus on the community-level care, a more detailed analysis of the effectivity and efficiency of the community-level interventions need to be explored. These need to include the household level of decision-making around access of the multiple streams of care available (including traditional care, private health care, over-the-counter medication) and the recognition of severity of the presenting complaints.

RECOMMENDATIONS

The implications of the national recommendations for the province are summarised below:

RECOMMENDATIONS	RELEVANCE TO PROVINCE	CHALLENGES WITH IMPLEMENTATION
Malnutrition	Many areas with high deprivation index	Socio-economic policy and its impact in most deprived areas
Deaths outside	High number of deaths occurring outside of health facilities, particularly in rural areas	Access to health care remains challenging
Unreported deaths	Underreporting in many rural and traditional authority areas where lack of reporting appears to be more common	Persistent poor coordination of vital data collection and processing,
Non-natural deaths		
Prehospital factors	High level of pre-hospital deaths and factors associated with morbidity and mortality. Significant investment in community-based services	Lack of coherent engagement with traditional health practices and practitioners, ?limited empowerment of CCG's, Lack of coherent
Hospital factors	Hospital mortality rates have plateaued	Clinical governance linked to quality improvement processes
PHC services for children	Strengthening of PHC services in the province	Development of integrated care management across home, clinic, hospital and back. Clinical governance across levels of care

LIMPOPO PROVINCE

SUMMARY

- *Limpopo Province (LP) is one of the largest yet poorest provinces in South Africa. The province has deep rural areas embedded with poverty, water scarcity and poor sanitation (wash deficits). This is evident by more than half of the people being without piped water and good sanitation.*
- *The community utilizes Primary Health Care and during 2011 IMCI coverage was more than 60%. Training has continued and is currently conducted through distance learning with scheduled contact and supervisory sessions.*
- *Both home and hospital deaths are high these are precipitated by high usage rates of traditional medicines.*
- *Diarrhoeal disease and pneumonia still account for the majority of childhood deaths.*
- *The SAM CFR in 2010 was 22,9%, which exceeded the national rate of 18,9%, but currently is 7,9% which is still above the national rate of 2,9%. Unlike 2010 when HIV was an underlying factor in half of child deaths it now underlies fewer than half of these deaths due to the implementation of ART, early detection through birth PCR testing and early initiation of ART, hence the number of children initiated on ART increased from 1 205 in 2010 to 42 056 currently.*

INTRODUCTION

Limpopo province is the northern most province in South Africa comprising mainly poor rural communities. It shares borders with Botswana to the west, Zimbabwe to the north and Mozambique to the east. It has a population of 6 044 413, of whom 11,1% are under-5 years of age, with a density of 48,1/km². Access to municipal water and other related services, such as piped drinking water on site, is only available to 13,1%. The province comprises districts (Waterberg, Mopani, Capricorn, Vhembe, and Sekhukhune) with 30 district, five regional and two tertiary hospitals, and 454 PHC facilities and 26 Community Health Centres.



CHILDREN

There are 617 145 children below five years of age, which constitutes 11,1% of the provincial population. Although there are fewer children in the province than in Gauteng, the Eastern Cape and KZN they comprise a greater proportion of the provincial population than in any other province.

Vhembe District has the largest number of children, 500 941, but in Sekhukhune District they constitute the highest proportion of the district population at 11,8%.

SOCIAL DETERMINANTS

According the comparison in South Africa national ranking at 47,9, Limpopo Province has a population density of 48,1/km² which is higher than the national average of 47,9 people/km² and fourth after GP with 790,0 people/km², KZN with 122,6 people/km² and MP with 59,1 people/km². The province the highest proportion of households living in formal dwelling at 88,9% but the fewest with access to piped water on site (13,1%). At 38,9% the unemployment rate is above the national rate of 29,8% and only the FS has more unemployed people. Although the province has highest percentage of children living in poverty (81,2%) it also has the highest enrolment rate in ECD centres (98,6%) and in schools (99,6%). Despite this 65,4% of adults over 20 years of age do not have a matric which is exceeded only by the EC and the NC.

HEALTH SYSTEMS

The Province has 30 district, five regional, two tertiary and 14 other (private or specialised) hospitals as well as 454 PHC clinics and 26 CHCs. Just over one third of PHC clinics (34,4%) have achieved ideal clinic status with the highest proportion in Capricorn district at 65,0%.

Referral pathways and support systems have been established between facilities at different levels of care although inter-facility transfers are hindered by poor emergency medical services coverage and prolonged ambulance turnaround times. PHC utilization is good and IMCI is implemented in all PHC clinics and ongoing training has shifted to distance learning with supportive contact sessions.

The province, in partnership with University of Limpopo, has developed a qualitative programme called Mother and Child Centre of Excellence in Regional Hospitals. In-reach and outreach programs were implementation and deserve sustenance and strengthening. All

regional hospitals are equipped with resource rooms to facilitate learning and teaching within districts. High Care cubicles and beds were created in all hospitals and supported in an effort to prioritize those in need of increased vigilant care. Attempts have been made to allocate specific doctors to children's wards and nurseries and to achieve the non-rotation of at least 50% of nursing personnel in both units.

Only 7,2 % of the population has medical aid coverage. The professional nurse coverage is 832 per 100 000 population. The number of paediatricians in the province has increased from eight in 2010 to 44 scattered around the province at present. This is well below the desired number of 200. Specialist services such as neurology were decentralized to regional and district hospitals to reduce workload on paediatricians in tertiary facilities.

Only 22,6% children live within 30 minutes from their nearest health facility. Although this is above the national average it is fewer than in the NW, MP, KZN and EC provinces.

MORBIDITY AND MORTALITY PROFILE

Under-5 and infant mortality rates The number of childhood under-5 deaths has maintained a consistent decline since at least 2013 when there were 4 707 under-5 deaths in the province. The decline in the number of infant death has been more recent since a peaked of 3 164 deaths in 215. The IMR is currently 19,2 per 1 000 live births and the U5MR 27,3 per 1 000 live births, both are below the national figure. Since 2013 around 45% of recorded deaths have occurred inside the health services and in the public health sector the in-hospital under-1 and under-5 mortality rates have both increased each year since 2016/17 and are currently 10,4% and 6,5% respectively.

Unreported deaths remain a problem but since there is now a Department of Home Affairs office in each hospital for the registration of births and deaths the bulk of unreported deaths occur in the community. Within the health sector early neonatal deaths remain unregistered when the birth was not registered before the death occurred.

Diarrhoeal Disease: The introduction of high care cubicles has assisted to reinforce that only those children who are not shocked are illegible to move to general "diarrhoeal cubicle" (ETAT SA adapted to Limpopo 2015). Rotavirus vaccine has reduced the incidence of diarrhoeal disease and zinc supplementation to children with diarrhoea has speeded their recovery time and reduced the length of admission. Oral therapy corners in strategic areas of health facilities have improved the prevention and management of dehydration. The

diarrhoeal case fatality varied between districts from a low of 2,3% Sekukhune to a high of 6,8% in Vhembe.

Pneumonia: This is the leading cause of child deaths in the province accounting for 12,7% of under-5 deaths. The case fatality rate has fluctuated around 3% and is current below that for diarrhoeal disease. This is attributed to an increasingly effective PMTCT programme with greater uptake of HAART by breastfeeding mothers and Nevirapine prophylaxis. Across the districts the pneumonia case fatality ranged from 1,3% in Vhembe to 6,8% in Capricorn.

The pneumonia mortality rate has been positively influenced by the introduction of NIMAART, the roll out of Cotrimoxazole prophylaxis and the promotion of the effective use of the RtHB in childcare. The Helping Children Grow workshops have empowered community health care workers and clinic personnel to understand the immunization schedule and identify gaps in the RtHB and if sustained may impact on caregiver health seeking behaviour and modifiable factors such as “caregiver delayed seeking carer”. These positive influences have been undermined by the use of traditional medicines, a shortage of skilled staff and vaccine stock outs especially BCG and pneumococcal vaccine.

Severe acute malnutrition remains a contributing factor in 31,2% of under-5 deaths in the province despite a decline in the incidence to 1,1. The SAM case fatality rate has increased year-on-year for the past three years and the current rate of 7,9% hides a wide inter district variation from 3,1% in Mopani to 21,5% in Capricorn.

Responses include the adoption of an inter-sectoral approach involving the Departments of Health, Social Development and Education and the creation of a monitoring and response unit as well as strengthening the implementation of the WHO ten steps for the management of severe acute malnutrition and Helping Children Grow workshops.

Factors contributing to under-5 deaths included HIV infection or exposure in 39,1% of children, varying from 23,5% in Capricorn to 44,6% in Sekukhune, and death within 24 hours of admission in 35,1% of deaths ranging from 28,6% in Capricorn to 36,6% in Sekukhune.

Modifiable factors The number of modifiable factors per deaths has dropped from 4,4 to 2,2 over the past three years and most are now attributed to clinical personnel and least to administrative factors. A third of these occur in the home (32,8%) or in the ward (35,6%). There has been no change in the nature of modifiable factors in the home but within the health service there have only been two recurring modifiable factors – incorrect assessment

of the severity of illness in the referring facility and inadequate investigations on arrival in hospital.

RECOMMENDATIONS

The implications of the national recommendations for the province are summarised below:

RECOMMENDATIONS	RELEVANCE TO PROVINCE	CHALLENGES WITH IMPLEMENTATION
Malnutrition	The province needs to ensure the implementation of packages of care at all levels.	Since the restructuring of the DCST programme workshops and updates aimed at informing health workers and identifying health gaps have been lost.
Deaths outside	Need to develop systems for monitoring these as vital information is lost.	The public health expert teams should be established with the aim to monitor, record, investigate and intervene.
Unreported deaths	Same as deaths outside the facilities, because more useful information is not captured.	Absence of the appointed team members.
Non-natural deaths	Data should be collected to compare with other provinces	The public health expert teams should be established with the aim to monitor, record, investigate and intervene.
Pre-hospital factors	The collation of the factors will assist in planning health activities to mitigate and reduce them	Specialized team to collate them is not yet appointed to strengthen community based health care service. The WBOTs have to be adequately resourced.
Hospital factors	Quarterly analysis of provincial Child PIP and PPIP data would be very helpful in this regard.	The program not in full utilization, same as in malnutrition above.
PHC services for children	Provinces should ensure implementation of packages of care at all levels.	The PHC supermarket approach disadvantages services for children. The WBOTs have to be adequately resourced.

Additional interventions that are relevant to Limpopo province include:

- CoMMiC should pursue the updating of undergraduate curricula to include priority skills such as, ETAT, IMCI, HCG, PALS with exit competency certification before entry into paediatrics.
- Peer review mechanism is required at provincial level to ensure compliance with priority programmes and uniformity of practice.
- The most frequent modifiable factors were identified as a lack of high care and ICU beds this calls for creation of more High care and ICU beds in regional hospitals.

- Shortage of nursing and doctor hinders for frequent review of patients and effect low quality care, advocate for additional employments of paediatricians, skilled nurses with specialities such as NICU, ICU and Paediatrics.

MPUMALANGA PROVINCE

SUMMARY

- *Children under 15 years of age make up 30,6% of the population in Mpumalanga Province. In the period of financial years 2016/17 – 2019/20, 311 618 babies were born in public health facilities in the province.*
- *Mpumalanga is ranked the third most rural province in the country with 66% of its total population living in rural areas. The population base exhibits low economic activity. It is estimated that approximately 23% of households have no regular source of income.*
- *Most of the population relies on public health services and approximately 12% receive services from the private sector.*
- *The top causes of mortality are pneumonia, diarrhoea and septicaemia and malnutrition plays a major contributing factor. According to DHIS, 5 024 children died in public health facilities during the period of financial years 2016/17 – 2019/20.*
- *Triennial recommendations are made by CoMMiC to improve child health outcomes. The uptake and implementation of the recommendations are variable.*

INTRODUCTION

Mpumalanga Province is situated in the north eastern part of South Africa and is bordered by eSwatini and Mozambique and shares provincial borders with Gauteng, Limpopo, KwaZulu-Natal, and the Free State provinces. It has a land surface area of 76 495 km² which represents 6,3% of South Africa's total land area.

There are 3 districts in the province: Ehlanzeni, Gert Sibande and Nkangala

It has a population of 4 520 629 which is approximately 7,7% of the national population. Mpumalanga is ranked the third most rural province in the country with 66% of its total population living in rural areas. The population base exhibits low economic activity and it is estimated that approximately 23% of households have no regular source of income. Most of the population relies on public health services compared to approximately 12,5% who have medical insurance.

CHILDREN

There are 1 382 167 (30,6% of population) children under 15 years in Mpumalanga of which 466 635 (10,3% of population) are under the age of five years. 8,1% of children under-5 years in South Africa live in Mpumalanga. Sixteen point five percent of children under 15 years in Mpumalanga are orphans.

SOCIAL DETERMINANTS

Eighty-four point seven percent of the population lives in a formal dwelling. Only 29% of households in the province have access to piped water in the dwelling (second worst in South Africa after Limpopo with and the country average is 44%) whilst 65,7% have access to flush sanitation (third worst in South Africa after Limpopo and Northwest Provinces with a country average of 78.3%). Ehlanzeni District has the lowest households with piped water and sanitation in the province with a coverage of 16,4% and 19,1% respectively). Sixty-seven point five percent of children in the province live in poverty compared to 82% in 2003.

HEALTH SYSTEMS

In the public health sector, there are 238 primary health care facilities, 56 community health centers, 23 district hospitals, three regional hospitals and two tertiary hospitals. There are 17 hospitals in the private sector. One quarter (25,2%) of children live further than 30 minutes from a health facility. There is no dedicated paediatric intensive care unit in the province in the public sector. Quaternary services are accessed through Steve Biko Hospital in Tshwane.

Table 31: Staffing levels per 100 000 population

	MP	GERT SIBANDE	NKANGALA	EHLANZENI	RSA
Professional nurses:	142.1	141.5	101.4	174.0	144.8
Medical practitioner:	26.1	22.3	21.6	32.3	32.0
All specialists:	22.3	21.6	32.3	26.1	9.7
Paediatricians: per 100 000 children < 5 years	5.1				25.9
Occupational therapists	2.4	2.4	1.7	2.9	2.9
Physiotherapists	2.5	2.5	3.0	2.7	3.0

Source: SA Health Review

MORBIDITY AND MORTALITY PROFILE

Data from the DHIS as well as the Child PIP are used to assess morbidity and mortality profiles of children in Mpumalanga Province. All the hospitals in the province are submitting death audit data to Child PIP which makes it a valuable tool to assess in-facility mortality indicators and trends. It is also feasible to determine the quality of uptake of children in health programs by looking at indicators like immunization coverage, PCR positive rate around 10 weeks etc.

The immunization under-1-year coverage for Mpumalanga Province in the last four financial years ending 2019/20 are 75,6%, 90,2%, 96,8% and 96,1% respectively.

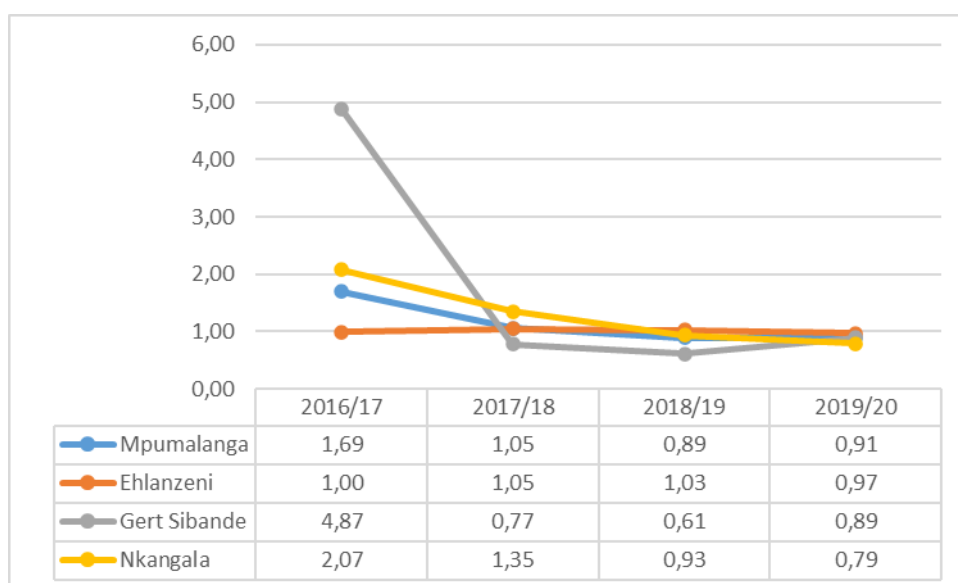


Figure 11: HIV PCR positive rate around 10 weeks

Source: DHIS

The reduction in the PCR positive rate around 10 weeks indicates that the PMTCT program is highly effective.

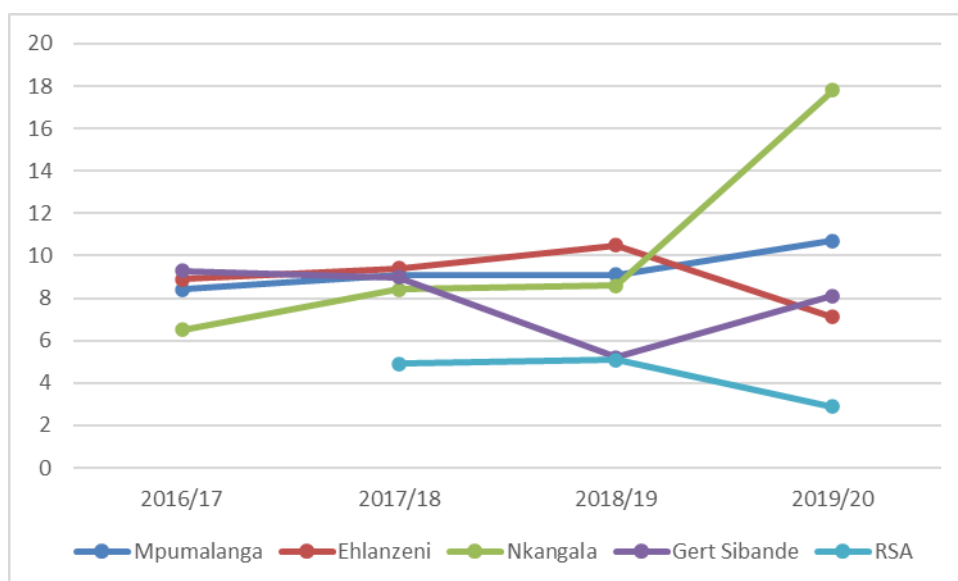


Figure 12: Severe acute malnutrition case fatality rate, 2016/17 – 2019/20

Source: DHIS

The high severe acute malnutrition (SAM) case fatality rate (CFR) remains a concern for the province. It appears that the early identification of growth faltering and malnutrition, and the management of malnutrition in children is lacking at all levels of care.

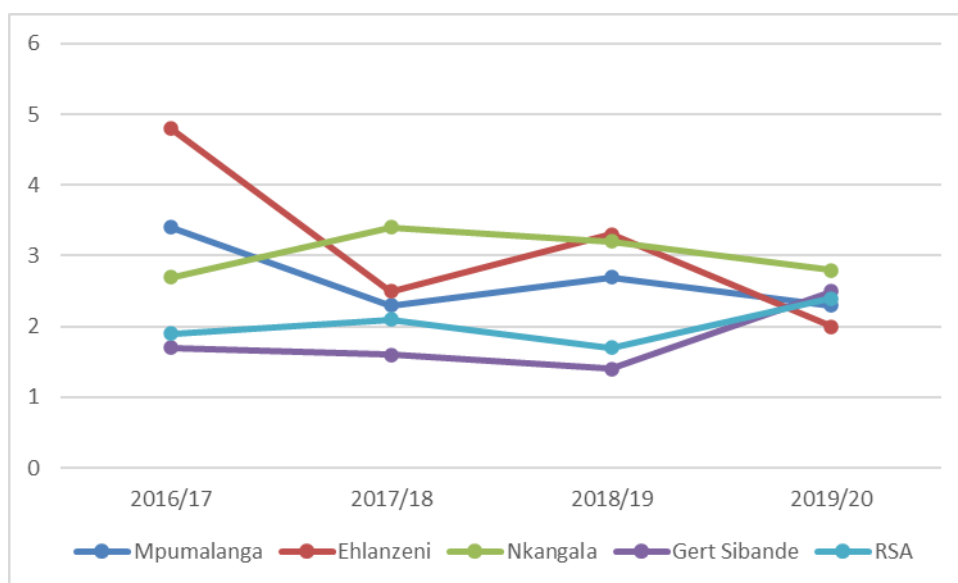


Figure 13: Pneumonia case fatality rate, 2016/17 – 2019/20
Source: DHIS

The pneumonia CFR has steadily declined in the last four years in the province with Ehlanzeni district showing a significant reduction.

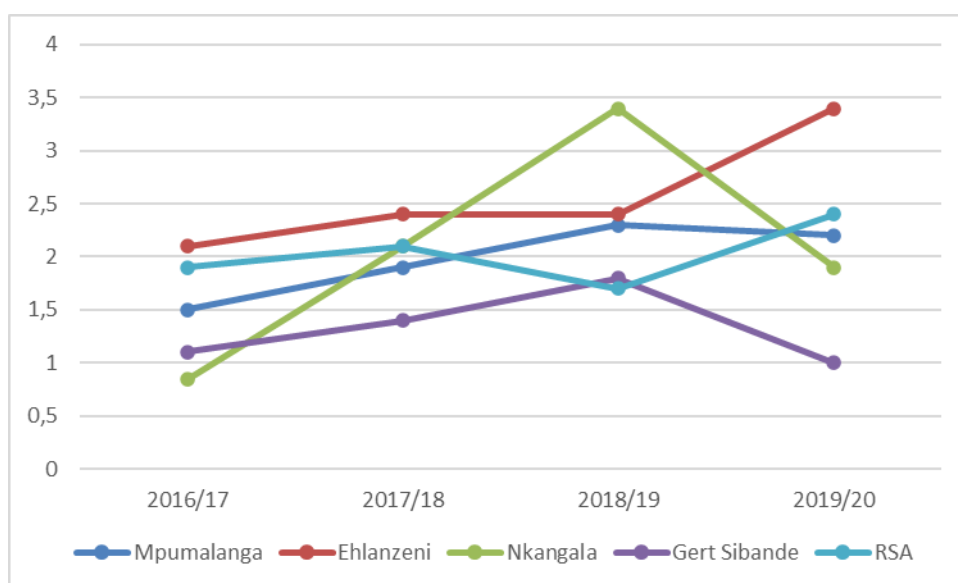


Figure 14: Diarrhoea case fatality rate, 2016/17 – 2019/20
Source: DHIS

The increase in the diarrhoea CFR is a concern. There was a significant increase in the diarrhoea CFR in Ehlanzeni District from 2018/19 to 2019/20.

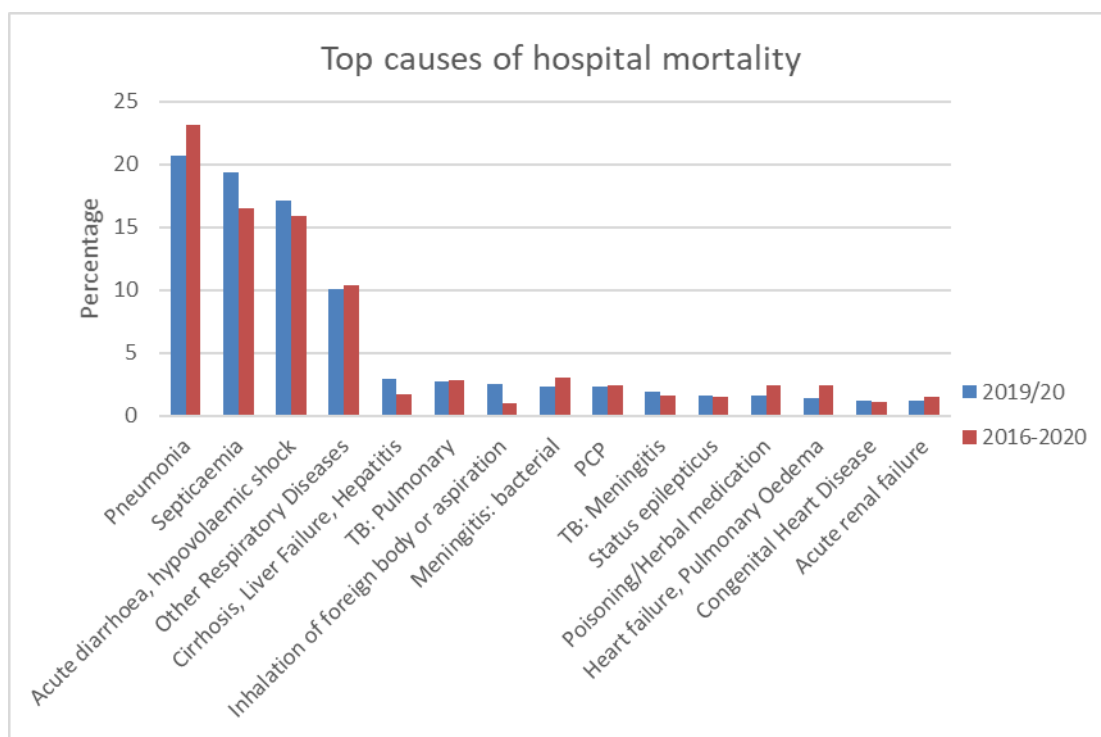


Figure 15: Causes of in-facility deaths
Source: Child PIP

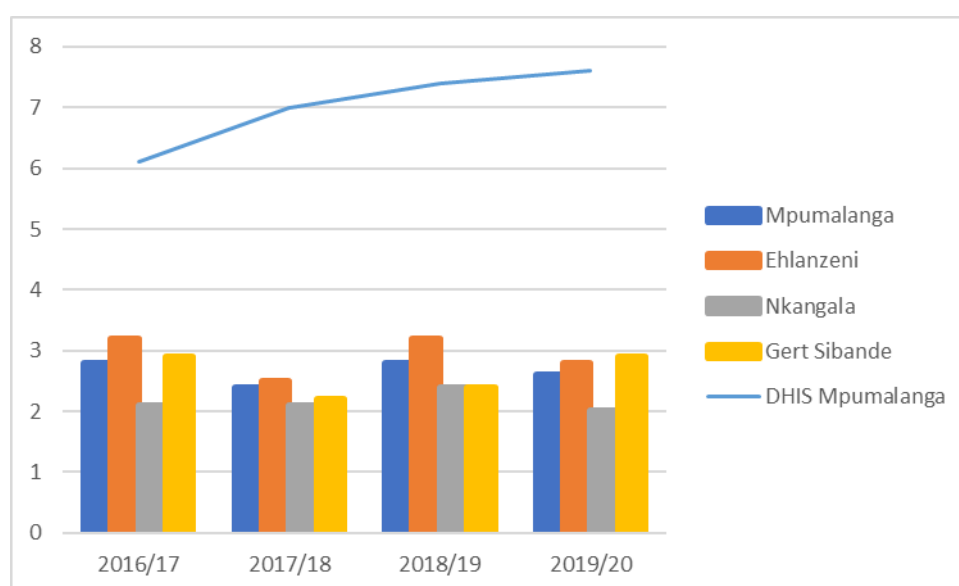


Figure 16: In hospital mortality rate (%) of children under 5 years, 2016/17 – 2019/20
Source: Child PIP and DHIS

Since all the public hospitals in Mpumalanga Province submit accurate in-facility paediatric ward data to Child PIP, valuable information can be obtained from this data set. The columns in the graph above reflect child deaths in the paediatric wards, reported through Child PIP and which excludes the neonatal deaths in the neonatal units (nurseries). The in-

hospital mortality rate reported through DHIS **includes** the neonatal deaths in the neonatal units and will therefore be higher.

Modifiable Factors

Modifiable factors are identified during the death audit process in the paediatric wards by health workers. These are factors that possibly or probably contributed to a child's death. It is also possible to disaggregate the modifiable factors into domains such as at home, clinic, hospital MFs as well as clinical and administrative MFs. There might be biased opinions reflected since the caregiver related identified MF are predominantly in the top 10 list of MFs.

Table 32: Top modifiable factors across all domains, 2016 - 2019

Caregiver delayed seeking care
`Traditional remedy` given from traditional healer, with negative effect on child
Caregiver did not recognise danger signs/severity of illness
Child not provided with adequate (quality and/or quantity) food at home
Lack of High Care and/or ICU facilities for children in own and higher-level facility
Inadequate notes on clinical care (assessment, management, monitoring at A&E)
Inadequate history taken at A&E
Caregiver unaware of child's health history
Inadequate investigations (blood, x-ray, other) at A&E

Source: Child PIP

Table 33: Top clinical modifiable factors, 2016 - 2019

Inadequate notes on clinical care (assessment, management, monitoring at A&E)
Inadequate history taken at A&E
Inadequate investigations (blood, x-ray, other) at A&E
Not classified as critically ill despite presence of danger signs at A&E
Emergency signs not recognised at A&E
Inadequate physical examination at A&E
Blood glucose not monitored in child with danger signs at A&E
No hand-over of critically ill child from admitting doctor to ward doctor at A&E
Inadequate history taken in ward
Priority signs not recognised at A&E

Source: Child PIP

Table 34: Top administrative modifiable factors, 2016 - 2019

Lack of High Care and/or ICU facilities for children in own and higher-level facility
No high care bed in referring facility for pre-transfer care of critically ill child
Lack of Intensive and High Care beds in own, or referral hospital
Inadequate number of nurses assigned to children's ward
Inadequate number of doctors assigned to children's ward
Basic laboratory investigations not available to ward 24 hours a day
Delayed arrival of ambulance at referring facility
No ambulance available for transfer from referring to receiving hospital
No home/community IMCI in health subdistrict
Lack of experienced doctors at A&E

Source: Child PIP

RECOMMENDATIONS

All seven recommendations included in this report are appropriate for implementation in Mpumalanga Province. However, emphasis can be placed on recommendations 1, 2 and 6. Severe acute malnutrition (SAM) mortality has increased in the province recently. With the limited services for critically ill children in referral hospitals in the province, the implementation of recommendation 6 will contribute to better care for critically ill children in district hospitals.

Implementation of the recommendation from the 2015 - 2017 CoMMiC report regarding strengthening of leadership in child health by appointing a provincial specialist will contribute to improved child health service delivery in Mpumalanga Province.

NORTH WEST PROVINCE

SUMMARY

- *The North West Province is among the least densely populated of the nine provinces in South Africa and accounts for 6,9% of the population.*
- *The national population density is 47,9 while that of the NW is 39,9 per square kilometer.*
- *Most of the NW is a desert. As a result access to health care services is difficult leading to poor health outcomes.*
- *There are four districts which have different population densities ranging from 11 in Dr. Ruth Segomotsi Mompati (RSM) to 95 in Bojanala district.*
- *In 2016, the population in Bojanala was 1,7 million (44,2%), the largest whilst Dr Ruth Segomotsi Mompati was the district with the lowest population at 12,3% .*
- *Although the population in RSM is small, reaching all communities is not easy as the roads are often inaccessible during rainy season and there are many hard to reach communities.*
- *The North West has an estimated 400 609 children aged 0 - 4 years, the largest proportion of the age distribution of the population and the population of children younger than 15 years is 1 195 463 making 30% of the population, similar to most provinces and the national average.*
- *Children under the age of five years make about 10% of the population.*
- *However there are inter-district variations with the most rural districts of RSM and NMM having children making up more than 30% of the population at 36,9% and 30,7% respectively.*
- *Bojanala and Dr. Kenneth Kaunda districts are more urban and richer than the other two districts.*
- *Health outcomes of children have been worsening since the last triennial report. A lot seems to do with the social determinants of health.*
- *Almost all indicators have either remained static or worsened over the last four years with the exception of pneumonia case fatality rate that has improved.*
- *Deaths associated with diarrhoea and malnutrition is a major challenge.*

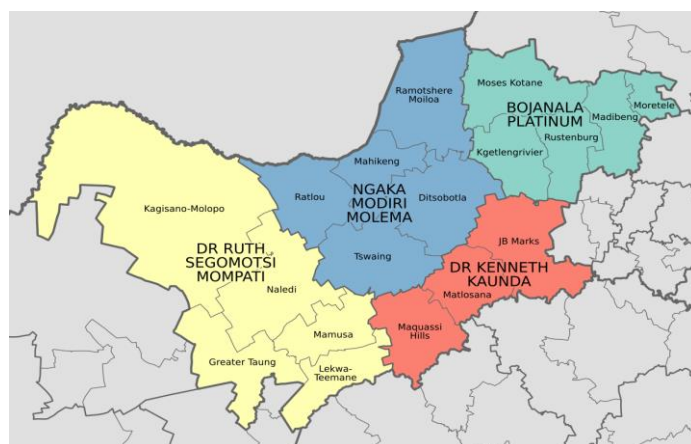


Table 35: Demographic profile of the North West Province

	RSA	NORTH WEST	BOJANALA PLATINUM	NM MOLEMA	DR RS MOMPATI	DR K KUANDA
Total population	58 535 663	3 975 891	1 753 848	968 781	480 942	772 320
Population density (people/km ²)	47.9	37.9	95.7	34.5	11.0	52.6
N ^o children < 5 years	5 733 946	400 609	170 123	95 909	58 675	77 232
N ^o children < 15 years	16 899 287	1 195 463	496 339	297 416	177 468	227 062
% population < 5 yrs	9.8	10.1	9.7	9.9	12.2	10.0
% population < 15yrs	28.9	30.0	28.3	30.7	36.9	29.4
Annual births	927 113	55 094	16 437	16 580	9 594	12 483

Source: StatsSA

Table 36: Child health indicators, 2016/17 – 2019/20

	2016/17	2017/18	2018/19	2019/20
Immunisation under 1 year coverage	69.0	69.4	68.4	62.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	45.8	55.8	56.3	59.6
Measles 2 nd dose coverage	75.3	72.5	68.8	66.8
Vitamin A dose 12 - 59 months coverage	43.7	41.9	42.6	41.6
Diarrhoea case fatality under 5 years rate	3.2	3.1	3.4	3.5
Pneumonia case fatality under 5 years rate	2.5	4.3	2.2	1.3
SAM case fatality under 5 year rate	10.6	8.0	9.3	12.0

Source: DHIS

SOCIAL DETERMINANTS

The vast majority of the people of the North West are Black African and historically and socioeconomically disadvantaged due to apartheid spatial and homeland planning with 90% dependent on the public health sector. The public health sector is challenged by inequality in public funding allocation, staff shortages and high burden of disease. This is reflected in the health profile of the province and mortality rates of among children as shown in the above data.

When comparing the household profiles of the districts, the rural districts are worse off compared to the urban ones e.g. there are more female headed households currently above 40% in RSM and NMM compared to the other two districts; more than 25% illiteracy rate; and more than 70% of those aged >20 years are without matric.

Although there are more than 80% of the population in the province living in formal dwellings, most of the people have no access to clean safe water with RSM being the worst of them with only 16,5% of households with piped water. This is reflected in the health

outcomes with diarrhoeal diseases and mortality due to severe dehydration and shock not improving despite clinical care. The province has the lowest proportion of children attending ECD centers at 86,8% compared to the national rate of 92,4%. The province has a fairly high unemployment rate of 27% with 72,2% of children living in poverty. More than 25% of children have to walk for more than 30 minutes to the nearest health facility.

When comparing the household profiles of the districts, the rural districts are worse off compared to the urban ones e.g. there are more female headed households currently above 40% in RSM and NMM compared to the other 2 districts; more than 25% illiteracy rate; and more than 70% of those aged >20 years are without matric.

HEALTH SYSTEMS

The North West Province has 264 primary health care clinics, 47 Community Health Centers, 13 district hospitals, three regional hospitals and two tertiary hospitals. There are also 18 privately owned hospitals and average medical aid coverage of only about 12% the highest being in Bojanala at 14% and the lowest in RSM at 7,3%. Only 45,6% of PHC clinics in the province achieved Ideal facility status but there is a wide variation with Bojanala at 24,6%, NMM at 43,3%, RSM at 59% and KK at 92,5%.

The current staffing levels for professional nurses and nursing assistants is good according to the provided data with 136 professional nurses and 78.1 nursing assistants per 100 000 people. However, when one checks on the ground it appears there are staff shortages. There is a huge shortage of all other clinical categories with only 24 paediatricians for the whole province and total specialist coverage of only 3,5% provincially.

About a quarter of children in the North West province live more than 30 minutes from health facility. This, coupled with 72,2% of children living in poverty makes access to care a challenge. This may be a contributory factor to low uptake of health services.

Uptake of health services in the province has been variable with declining immunization coverage before one year since 2016/17. In the financial year 16/17 the immunization coverage below one year was 69%, as well as 17/18. Then in 18/19 it declined to 68,4% and further declined to 62,3% in 19/20. Measles second dose coverage also dropped from 75,3% in 16/17 and by 19/20 it was at 66,8%.

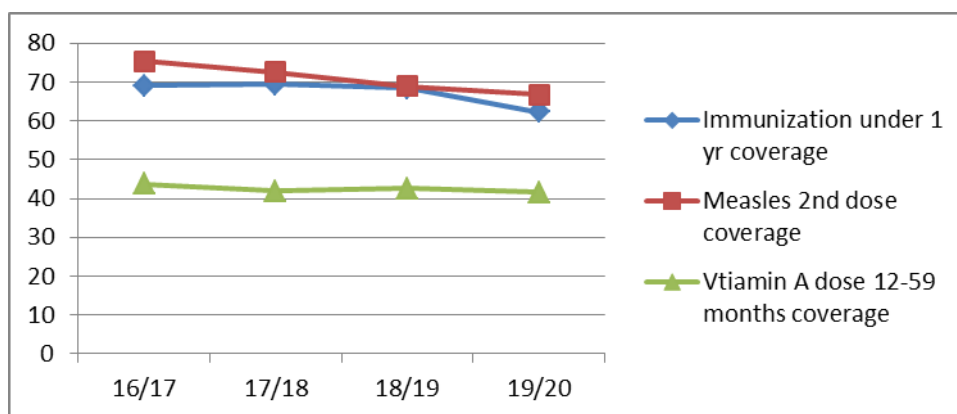


Figure 17: Immunisation coverage, 2016/17 – 2019/20

Source: DHIS

Health outcomes of children in the North West Province have been poor. Although mortality rate trends nationally are decreasing, those of the province have not changed much since 2015. Mortality due to diarrhoea with severe dehydration and severe malnutrition is still above the national target and seems to be worsening over the years. This could be attributed to social determinants of health. The province has water scarcity and hence the probability of increased incidences of diarrhoea. Deaths due to pneumonia have been on the decline since 2018. Compared to the previous triennium, the total number of deaths seems to have declined but this should be taken cautiously since there could be data validity issues. There is currently only one year data on deaths from Stats SA, making comparisons difficult. Considering that data only, there were 1 986 registered infant deaths with only 679 hospital deaths (34,3%). Registered under-5 years deaths were 2 523 but only 832 died in hospitals (33%). This is a worrying trend. In the previous triennium hospital deaths were 45% of all reported deaths.

Table 37: Trend in case fatality rates for diarrhoea, pneumonia and severe acute malnutrition, 2016/17 – 2019/20

	16/17	17/18	18/19	19/20
Diarrhoea case fatality under 5 years rate	3.2	3.1	3.4	3.5
Pneumonia incidence	11.3	9.4	8.3	7.1
Pneumonia case fatality under 5 years rate	2.5	4.3	2.2	1.3
SAM incidence	6.4	3.9	3.8	4.0
SAM case fatality under 5 year rate	0.6	8.0	9.3	12.0

Source: DHIS

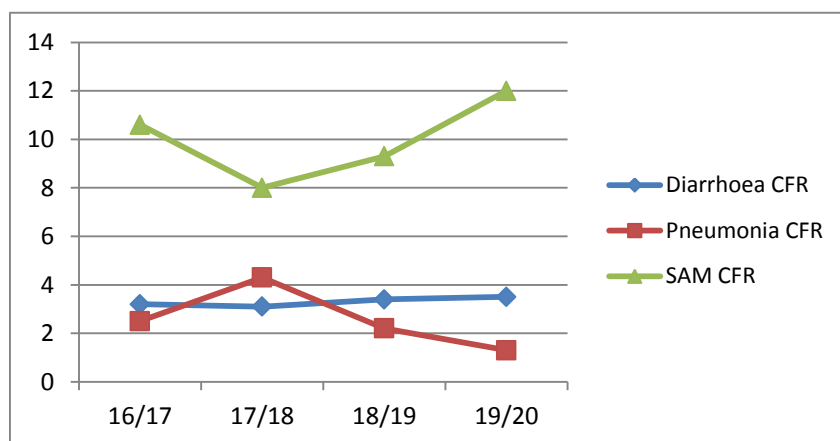


Figure 18: Trend in case fatality rates, 2016/17 – 2019/20
Source: DHIS

Pneumonia mortality has declined significantly over the three years, while diarrhoea mortality remains almost static above the national target and SAM mortality has been increasing, a worrying trend.

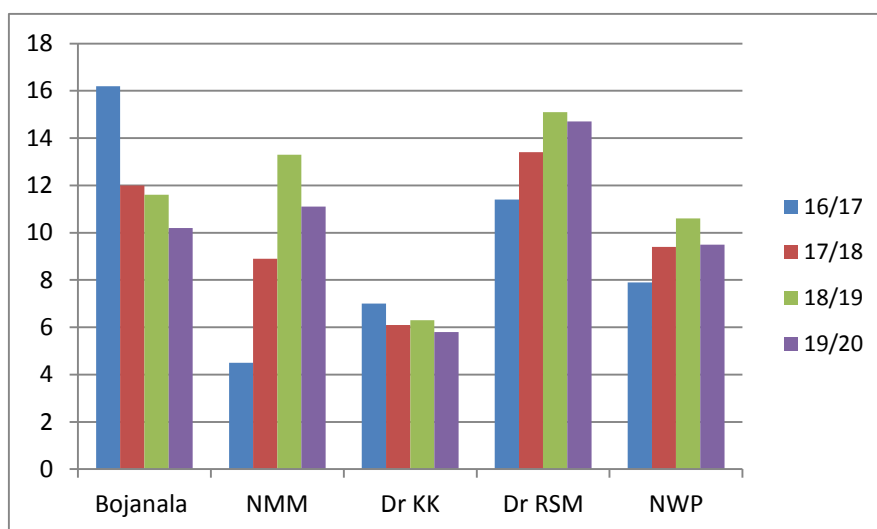


Figure 19: Trend in in-hospital infant mortality rate, 2016/17 – 2019/20
Source: DHIS

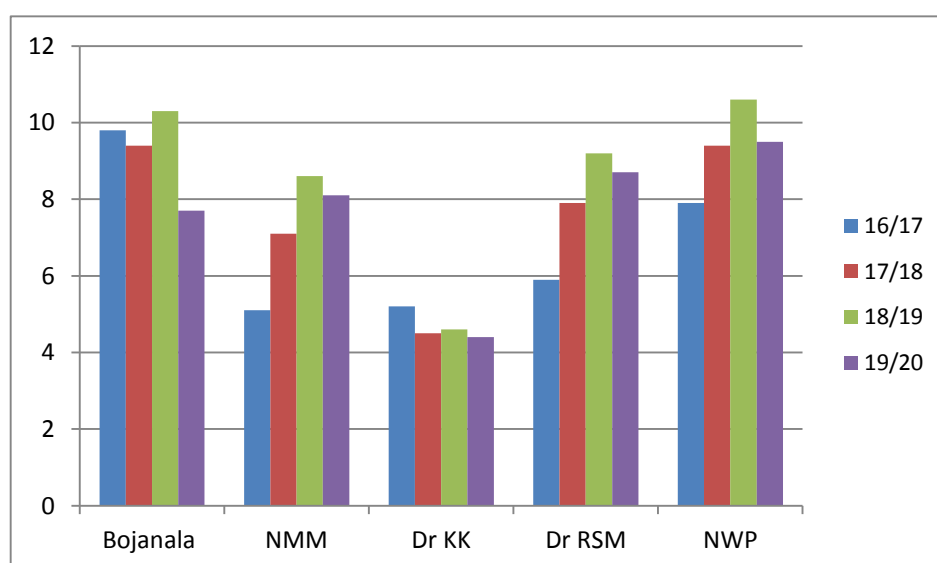
The provincial infant mortality in hospital has gone above the baseline in 2016/17 with 2018/19 being the worst at above 10 percent. Two districts, Bojanala and Dr Kenneth Kaunda have been showing steady decline in infant mortality, while Ngaka Modiri Molema and Dr Ruth Mompati have recorded increased mortality rates.

Table 38: Infant and under-5 deaths, 2016/17 – 2019/20

Deaths	2016/17	2017/18	2018/19	2019/20
Infant deaths	916	679	845	868
<5 deaths	1 107	832	1 052	1 075

Source: DHIS

These deaths represent less than 40% of all the deaths as most of the deaths are still occurring outside the health service.

**Figure 20:** Trend in U5MR by district, 2016/17 – 2019/20

Source: DHIS

The under-5 mortality rates are similar to the infant ones, not much progress in all districts. Dr Kenneth Kaunda has maintained a low mortality rate of below 5/1000 while all other districts mortality rates have been above 8/1000, while the expected mortality is at most 5,1/1000.

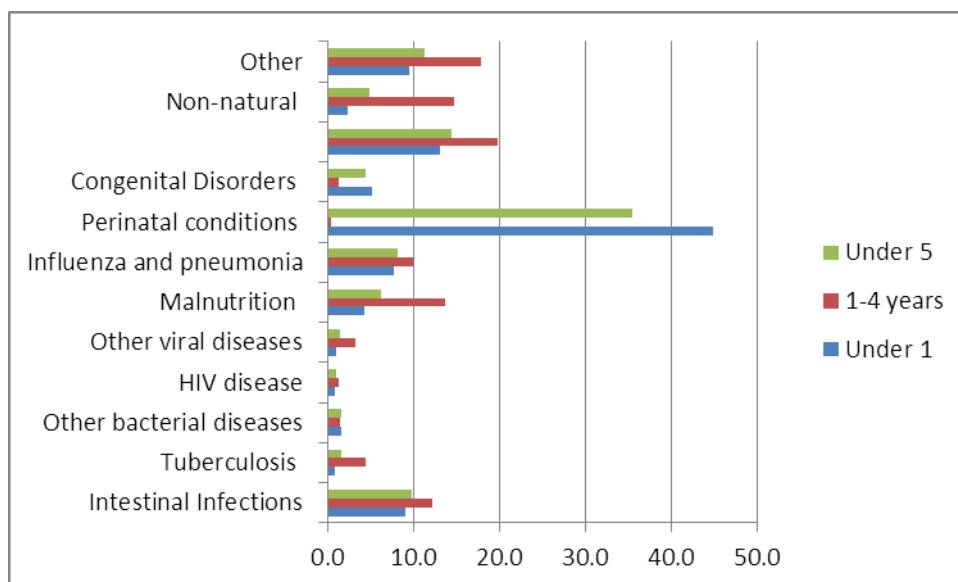
Causes of deaths

The main causes of deaths in children and their contributions in 2017 are shown in the table and figure below. Of the identifiable causes of death the top causes in the under one year 44,9% were perinatal conditions, 9,1% intestinal infections, 7,7% influenza and pneumonia, 5,2% congenital disorders, 4,2% malnutrition, 2,3% non-natural and 1,6% other bacterial diseases. Non-natural causes of death in the 1 - 4 years age group. Supervision and care for children needs to be emphasized to prevent deaths due to domestic accidents.

Table 39: Cause of mortality by age, 2017

CAUSES OF DEATH	UNDER 1	1-4 YEARS	UNDER 5
Intestinal Infections	9.1	12.1	9.7
Tuberculosis	0.8	4.5	1.6
Other bacterial diseases	1.6	1.5	1.6
HIV disease	0.8	1.3	0.9
Other viral diseases	1.0	3.2	1.4
Malnutrition	4.2	13.6	6.2
Influenza and pneumonia	7.7	9.9	8.2
Perinatal conditions	44.9	0.4	35.4
Congenital Disorders	5.2	1.3	4.4
Ill-defined/Miscellaneous conditions	13.0	19.7	14.5
Non-natural	2.3	14.7	4.9
Other	9.5	17.9	11.3

Source: StatsSA

**Figure 21:** Causes of mortality by age, 2017

Source: StatsSA

Modifiable Factors for the deaths

All public hospitals are using Child PIP death audits. As shown in the table below, about a quarter of the under-5 deaths had associated severe malnutrition, with a slight decrease in 2018. Inter-district variation is noted with NMM and RSM reporting associated malnutrition in half of the deaths. Also about a third of the deaths occurred within 24 hours of admission to hospital and a third were either HIV infected or exposed. Late presentation is a major problem. The ward, A&E department and home had the highest percentages of modifiable factors contributing more than 80% of the total over the three years as shown in the table

below. Interventions towards these three factors are required to mitigate the preventable deaths of children.

Table 40: Modifiable factors, 2016 - 2018

	2016	2017	2018
N° hospitals doing Child PIP	18	19	21
% children under-5 who died and had severe malnutrition	26.6	26.1	21.9
% children under-5 who died and were HIV Infected or Exposed	32.8	32.2	27.2
% Deaths within 24 hrs of admission to hospital	31.9	33.9	37.8
Total MFR/death	3.2	3.5	3.4
MFR - Clinical Personnel	1.8	2.1	2.1
MFR – Administrator	0.3	0.3	0.4
MFR – Caregiver	1.0	1.1	1.0
% - Ward	28.1	30.5	28.8
% - A&E	22.1	20.2	22.0
% - Referring Facility & Transit	5.7	6.2	8.2
% - Clinic/OPD	10.6	10.4	12.5
% - Home	33.4	32.7	28.6

Source: Child PIP

RECOMMENDATIONS

Recommendations specific to the NW province include the following:

- Child health needs to be as prioritized with the same focus as maternal health.
- Tracking progress on child health impact indicators in the provincial APP.
- Appointment of a provincial paediatrician and child health programme manager who will advocate for resources for child health.
- Involvement of other stakeholders in addressing the social determinants of health and inequity within the province.

The implications of the national recommendations for the province are summarised below:

RELEVANCE TO PROVINCE	CHALLENGES WITH IMPLEMENTATION
Malnutrition	
<p>Ensure community based nutrition screening of all children under 5 years of age by CHWs and WBOTs :</p> <ul style="list-style-type: none"> • Province needs to intensify early detection by ensuring that all CWH and WBOTs are trained on growth monitoring, use of MUAC and be provided with MUAC tapes. Clear referral pathways and protocols should be made available to all stake holders. <p>Capacitate frontline staff in the initial management of children with SAM:</p> <ul style="list-style-type: none"> • 80% of staff working at PHC should be IMCI trained. 	<ul style="list-style-type: none"> • Poor integration of services that are provided by CHW and WBOTs. • Focus is on HIV/TB than child health services. • NGOs push their agenda and provide little or no support on child health. • Inadequate number of CHW to cover vulnerable households. • In other district lack of transport and

<p>The facility managers should allocate IMCI trained nurses in EPI and child acute care areas.</p> <ul style="list-style-type: none"> • 80% of staff in A&E should be ETAT trained. • Onsite mentoring and monitoring must be provided by DCST, clinic supervisors and program managers. <p>Implement quality improvement protocols for the integrated management of SAM :</p> <ul style="list-style-type: none"> • All PHC facilities should audit at least 10 RTHB a month to ensure implementation of growth monitoring. • Every SAM admission needs clinical auditing to improve quality of care. All SAM deaths must be audited. • SAM discharges needs to be linked to WBOTs teams and be marked as vulnerable households. <p>Collaborate with other government departments to address the social determinants of health:</p> <ul style="list-style-type: none"> • Province needs to ensure that there is establishments and launch of war rooms by district managers. 	<p>high crime rate.</p> <ul style="list-style-type: none"> • Incomplete DCST teams affect training and roll out of ETAT training. • Onsite mentoring and monitoring is inconsistent due to utilization of DCSTs to other services. • Not all staff are IMAM and ETAT trained and even the trained staff rotate • Lack of ownership of clinical audits by clinical managers • SAM discharges are not always linked to CHWs and end up as relapses and readmissions • War rooms are not fully functional in all districts
Deaths outside the health system	
<p>Promote the early identification of common childhood illnesses at home, in the community and by primary care and traditional health practitioners:</p> <ul style="list-style-type: none"> • Educate caregivers about danger signs and the messages on RTHB. • Engagement of Traditional Health Practitioners • Implement IMCI • Availability of PHC pulse oximetry <p>Improve the case management of pneumonia, diarrhoea and the sick newborn at all levels of care:</p> <ul style="list-style-type: none"> • Every facility should have IMCI guidelines and ensure implementation of guidelines. Oral rehydration corners in each IMCI/EPI room • ETAT posters should be visible in each emergency room and fire drills be conducted once a month on different scenarios by each facility. • Clear referral pathways and support by next level of care • Dedicated maternal, child and neonatal functional fully equipped EMS . Dedicated call center for priority cases. • EMS should be part of mortality and morbidity meetings. <p>Create a responsive and accessible health service with linkages between levels of care, improved access to care and a functional referral pathway:</p> <ul style="list-style-type: none"> • All newborns and hospital discharges should be linked to WBOTs and CHW. • Implement user friendly PHC operating hours 	<ul style="list-style-type: none"> • Health education and PHC facilities is not done consistently • There is no engagement and integration with THPs • IMCI is not always used as a standard of care at PHC levels • Pulse oximeters for children are not available in most PHC facilities • Although guidelines are there, they are not used consistently • There is high turnover of staff • Lack of leadership or champions on the ground in facilities • There are few advanced care paramedics in the province and some districts have only basic trained paramedics, serious road infrastructure issues and ill equipped ambulances • WBOTs and CHWs are not properly supervised hence they do not always visit households with vulnerable children • Inadequate staff hinders long clinic operating hours
Unreported deaths	
<p>Improve birth registration</p> <ul style="list-style-type: none"> • Information to expectant mothers on requirements for 	

<p>birth registration</p> <ul style="list-style-type: none"> • Work with DHA to establish DHA offices in every hospital <p>Improve death registration</p> <ul style="list-style-type: none"> • Expand role of DHA offices to include registration of deaths • Explore death registration via community structures 	
Non-natural deaths	
<p>Awareness of child safety and injury prevention</p> <ul style="list-style-type: none"> • Information to expectant mothers • Information campaigns • Implementing a safe home environment <p>Burns awareness</p> <ul style="list-style-type: none"> • Identify local partners for IEC campaigns <p>Road safety</p> <ul style="list-style-type: none"> • Awareness of child restraints and access to car seats • Liaise with Community Safety to create "Walking buses" <p>Multi-sectoral interventions</p> <ul style="list-style-type: none"> • Multi-sectoral child safety and injury prevention policy • Municipal control of illegal electricity connections • Liaise with Department of Transport re law enforcement <p>Home safety checks</p> <ul style="list-style-type: none"> • Tool for home safety checks 	<ul style="list-style-type: none"> • No dedicated personnel to educate pregnant women on child safety • Many children are suffering burn injury every year due to unsafe living conditions in informal settlements especially during the cold season • A home safety tool kit is yet to be developed
Pre-hospital factors	
<p>Empower and support households</p> <ul style="list-style-type: none"> • Promote infant nutrition • Education of mothers and caregivers re danger signs in RtHB • Informs mothers and caregivers of health pathways • Ensure every child discharged from hospital has a clear and appropriate discharge plan including advice on when to return <p>Strengthen links between community structures/services</p> <ul style="list-style-type: none"> • Ensure referral pathways and linkages are established and known by community members • Establish multi-sectoral forums to identify and support vulnerable households • Include and capacity traditional health practitioners 	<ul style="list-style-type: none"> • CHWs who are supposed to empower and educate caregivers on child nutrition and breastfeeding have not been actively involved in providing MCH services since they are not supervised, and they focus mostly on TB and HIV • Linkages in the continuum of care are very weak
Hospital factors	
<p>Improve undergraduate and in-service training of health professions in childhood emergencies:</p> <ul style="list-style-type: none"> • Ensure in-service training in ETAT and paediatric resuscitation for all interns and nurses. • Nursing colleges to integrate ETAT and paediatric resuscitation in the curriculum <p>Establish provincial plans for paediatric critical care services including a minimum of 2 high care beds in every children's ward:</p> <ul style="list-style-type: none"> • All paediatric and neonatal units should have medical 	<ul style="list-style-type: none"> • Non-availability of provincial DCSTs and unclear provincial plan on child health services. • Budget allocation does not prioritize child health needs • Poor infrastructure compromise clinical care. • Leadership at facility do not always prioritize paediatric services. • Some district hospitals do not have

<p>air.</p> <ul style="list-style-type: none"> • Every hospital must have two functional high care beds according to the norms and standards <p>Hospitals must implement the non-rotation of staff and enforce the use of triage, early warning scoring systems and daily ward rounds in every children's ward:</p> <ul style="list-style-type: none"> • Equitable allocation and non-rotation of clinical staff • Ensure effective triage systems in hospitals • Ensure use of early warning scoring systems • Ensure daily ward rounds in children's wards • Hand over and red flag of critical ill patients • Ensure outreach support to district hospitals 	<p>either wall oxygen or medical air, hence severe cases of respiratory distress are not managed optimally</p> <ul style="list-style-type: none"> • Most district hospitals do not have paediatric high care beds nor the equipment for that • Lack of standardized care protocols in hospitals and high turnover of clinical staff in paed wards • Handing over of critically ill children is not practiced all the time • Outreach to district hospitals is left to the DCST alone. Paediatricians at L2 and L3 do not provide physical support to district hospitals
PHC services for children	
<p>National Working group on optimising PHC delivery for children</p> <p>Undertake a national audit of PHC service delivery for children</p> <p>Incorporate child focused norms and standards into the Ideal Clinic Project</p>	<p>This will take time to actualize the policy document</p>

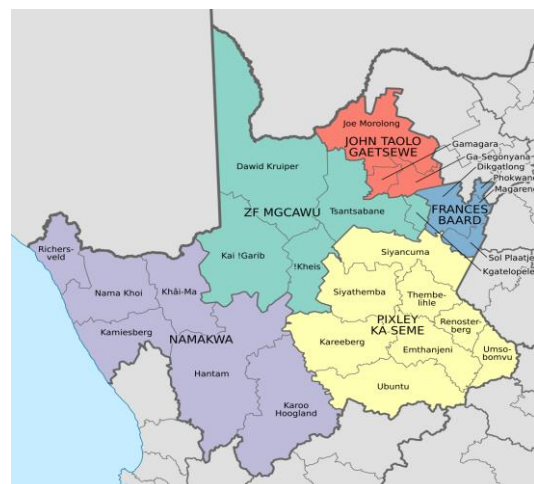
NORTHERN CAPE PROVINCE

SUMMARY

- *Northern Cape can be described as mostly a rural province with the possible exception of the Frances Baard district, in which Kimberley, the legislative as well as the economic hub, is situated.*
- *The province has low medical aid coverage, which ultimately places a huge burden on the public sector as the uninsured population constitutes over 80% of the total population in the province.*
- *Data reporting in the province is not optimal, thus presenting a distorted picture of what is really happening in the province. The rurality of the province might be a contributing factor to this, as not all data is captured on site.*
- *Contrary to the national picture that shows a decline in the incidence of SAM, provincially, the Northern Cape shows a significant increase in the incidence of SAM. In relation to the SAM data, 64.6% of children in the province lives in poverty, and 31.5% of employable population is unemployment.*
- *Of grave concern is the percentage of children under 5 years dying within the first 24 hours of presenting to a health care facility. This percentage is steadily increasing from 30,2% in 2016 to 45,8% in 2018.*
- *Also of note is the high number of non-natural/ ill-defined deaths documented in the age group 1-4 years.*

INTRODUCTION

The geographical of the Northern Cape area consists of 361 830 km, which constitutes about 29.7% of the country's total landmass.



The province comprises five districts, namely Francis Baard, John Taolo Gaetsewe, Namakwa, Pixley Ka Seme and ZF Mgcawu.

Table 41: Population distribution

	NC	NAMAKWA	PIXLEY KA SEME	ZF MGCAWU	FRANCES BAARD	JT GAETSEWE
Total Population	1 220 189	113 429	211 973	266 691	381 624	246 472
Population Density (people/km ²)	3,3	0,9	2,0	2,6	29,7	9,0

Source: StatsSA

Population density for the province varies from 0,9 people/km² in the Namakwa district to 9,0 people/km² in the John Taolo Gaetsewe district with Frances Baard as an outlier with a population density of 29,7 people/km². the NC can therefore be described as a rural province with the possible exception of the Frances Baard district, in which Kimberley, the legislative as well as the economic hub, is situated.

CHILDREN

Data released by Stats SA for 2017 suggests that the number of children in the province under 5 years of age, constitutes an estimated 10,2% of the total provincial population, and 2,17% of the overall total population of children under 5 years of age in the country. The total number of children under the age of 15 years constitutes an estimated total of 30,0%, which significantly influences planning for the health facilities, as attention should therefore be given to child and youth friendly services.

Table 42: Child population per province

	RSA	EC	FS	GP	KZN	LP	MP	NW	NC	WP
Total Population	58 535 663	7 311 626	2 924 685	14 361 347	11 565 963	6 044 413	4 520 629	3 975 891	1 220 189	6 610 920
<5 years	5 733 946	724 979	269 566	1 278 086	1 231 101	671 145	466 635	400 609	124 890	566 934
% <5 years	9.8	9.9	9.2	8.9	10.6	11.1	10.3	10.1	10.2	8.6
<15 years	16 899 287	2 231 248	836 122	3 628 464	2 456 173	1 994 848	1 382 167	1 195 463	366 626	1 700 177
% <15 years	28.9	30.5	28.6	25.3	21.2	33.0	30.6	30.0	30.0	25.7

Source: StatsSA

Table 43: Northern Cape child population per district

	NC	NAMAKWA	PIXLEY KA SEME	ZF MGCAWU	FRANCES BAARD	JT GAETSEWE
Total Population	1 220 189	113 429	211 973	266 691	381 624	246 472
N ^o of Children <5 years	124 890	9 074	18 230	20 535	32 438	24 894
% of population < 5 years	10.2	8.0	8.6	7.7	8.5	10.1
No of Children <15 years	366 626	28 584	57 445	64 273	101 894	78 625
% of population < 15 years	30.0	25.2	27.1	24.1	26.7	31.9

Source: StatsSA

SOCIAL DETERMINANTS

Social determinants of health in the province suggest a fairly average comparison to the rest of the country, with the percentage of female headed households as an outlier at around 15% for the Northern Cape against the 43% for the rest of the country, with the exception of the Eastern Cape at 9,8%. Within the province, though, this indicator remains on an average of between 13 and 18%.

Comparisons can also be drawn particularly between the living conditions of the child and the conditions/ diseases that children most commonly present with, eg. the number of children living in poverty compared to the incidence of malnutrition.

Interestingly, although many households use electricity in their dwellings, availability of and access to piped water within the dwelling, seems to be disproportionate to the availability of electricity.

Table 44: Household living circumstances – provincial comparison

	RSA	EC	FS	GP	KZN	LP	MP	NW	NC	WP
Unemployment rate	29.8	37.4	43.0	26.3	33.0	38.9	31.6	27.4	31.5	21.6
% female headed households	41,3	9,8	41,7	24,6	47,4	48,8	39,7	35,2	15,1	38,0
% living in formal dwelling	79.2	54.9	83.6	81.4	72.7	88.9	84.7	78.3	83.5	82.4
% households with piped water in dwelling	44.4	33.4	37.8	60.0	81.1	13.1	29.0	44.4	43.7	76.9
% households using electricity for lighting	90.3	85.4	93.8	89.7	88.5	90.3	88.9	89.0	88.8	96.6
% households with flush sanitation	78.3	85.2	83.1	89.4	76.6	57.0	65.7	66.3	87.2	90.6
% households with weekly refuse removal	61.0	41.3	69.7	83.6	47.7	21.9	39.4	54.8	61.8	86.8

Source: StatsSA

Table 45: Household living circumstances – district comparison

	RSA	NC	NAMAKWA	PIXLEY KA SEME	ZF MGCAWU	FRANCES BAARD	JT GAETSEWE
Unemployment rate	29.8	31.5	20.1	28.3	19.2	34.0	29.7
% female headed households	41.3	15.1	17.5	13.1	15.8	15.7	13.9
% living in formal dwelling	79.2	83.5	95.2	89.0	75.9	83.7	80.6
% households with piped water in dwelling	44.4	43.7	70.5	45.1	45.6	48.4	19.2
% households using electricity for lighting	90,3	88.8	89	90.4	86.8	90.7	86.8
% households with flush sanitation	78,3	87.2	67.9	72.6	65.7	78.4	27.3
% households with weekly refuse removal	61.0	61.8	81.7	74.2	67.6	69.3	24.0

Source: StatsSA

Table 46: Social context for children in the Northern Cape

	RSA	EC	FS	GP	KZN	LP	MP	NW	NC	WP
% living in poverty	65.4	79.6	69.9	43.8	78.6	81.2	67.5	72.2	64.6	36.6
% >30 mins from health facility	19.7	24.1	18.5	7.9	30.0	22.6	25.2	25.3	14.6	6.5
% orphans	14.1	18.0	18.0	11.0	17.3	12.2	16.5	13.3	10.7	6.8
% 5 - 6 years attending ECD centre	92.4	96.1	95.9	94.5	89.5	98.6	91.8	86.8	90.0	83.9
% 7 - 17 years attending school	97.8	96.6	98.1	98.5	98.3	99.6	98.0	95.7	95.2	96.4
% > 20 years with no matric	56.3	91.7	60.0	41.7	53.9	64.7	57.9	63.5	65.7	54.9
% > 20 years with no schooling	7.1	8.1	5.9	3.9	8.6	13.9	11.3	8.7	7.9	2.4
% >30 mins from health facility	19.7	24.1	18.5	7.9	30.0	22.6	25.2	25.3	14.6	6.5
% medical aid cover	15.4	9.8	13.5	24.6	11.9	7.2	12.5	11.9	15.1	20.1

Source: StatsSA

HEALTH SYSTEMS

Comparatively, medical aid coverage in the province is above most other provinces, with Gauteng and Western Cape having more coverage than NC. The low medical aid coverage in the province, however, ultimately places a huge burden on the public health facilities, as the uninsured population makes use of public health facilities.

Table 47: Health facilities per district

	NC	NAMAKWA	PIXLEY KA SEME	ZF MGCAWU	FRANCES BAARD	JT GAETSEWE
PHC Clinics	127	23	28	14	25	37
Community Health Centres	33	10	8	6	4	5
District Hospitals	11	2	3	2	2	2
Regional Hospitals	1	0	0	1	0	0
Tertiary/ Central Hospitals	1	0	0	0	1	0
Other Hospitals	8	2	0	1	4	1
% Ideal PHC clinics	57.1	24.2	80.6	76.2	58.6	52.4

Source: DHIS

Table 48: Staffing levels per 100 000 population

	RSA	NC	NAMAKWA	PIXLEY KA SEME	ZF MGCAWU	FRANCES BAARD	JT GAETSEWE
Nursing Assistants	68,3	82.6	89.8	79.8	85.1	99.2	54.2
Enrolled nurses	62,7	22.9	32.1	21.7	26.3	26.4	10.8
Professional nurses	144,8	147.0	158.2	116.2	111.8	181.8	127.7
Dental practitioners	2,5	3.8	6.4	3.8	2.2	5.9	1.0
Medical practitioners	32,0	42.2	22.4	10.9	26.3	97.6	9.4
Medical specialists	9,7	2.3			0.5	6.5	0.5
Pharmacists	11,6	17.2	12.8	17.9	11.1	23.6	5.7
Occupational therapists	2.6	5.4	7.5	3.3	4.0	9.3	1.9
Physiotherapists	3,0	5.9	11.8	3.3	5.8	8.1	2.4
Community Health Workers	54 180	2 553	171	416	318	773	874
Total no.: Paediatricians	1 487	21					

Source: SA Health Review

Interesting to note, is that staffing in the province is generally higher than the average in the country. In the province, distribution of staff seems to be according to population density, with Namakwa as an outlier with 158,2 PN's against a population density of 0,9 people/ km². In the remote areas one still finds Primary Health Care facilities operating with one Professional Nurse, and a Medical Officer doing sessions at the facility usually once a week.

Paediatric outreach services is mostly non-existent in the province, adding to over-burden of the higher levels of care in the province (one regional, one tertiary Hospital) as most of the specialized staff are concentrated in these hospital

MORBIDITY AND MORTALITY PROFILE

Child morbidity

Diarrhoea: Provincially, the incidence of diarrhoeal disease fluctuates from 5 - 14 /1 000 children under-5 year population, with no significant increase on a year-to-year basis, and the number remains above the national average of 1,9 /1000 children under-5 year population in 2016/17 and 1,7 in 2018/19.

Inter-district, the incidence remains fairly constant with a noticeable increase in the districts where the regional and tertiary facilities are located, ie. Frances Baard where the tertiary hospital, Robert Mangaliso Sobukwe Hospital (previously Kimberley Hospital Complex) is, and the ZF Mgcawu district, where the regional hospital, Dr. Harry Surtie Hospital (Upington) is situated. The CFR remains above the provincial medium term targets of 2,5% and 1,8% respectively for 2016/17 and 2018/19 of children admitted with diarrhoea.

Pneumonia: Provincially, there was a decline between 2016/17 and 2017/18, before increasing again in 2018/19, with Frances Baard district again as a clear outlier, most probably due to the fact that the tertiary hospital and the bulk of paediatricians are found in this district. Inter-district, CFR is reported at below 4%, year-to-year for 2016/17 and 2017/18 and in 2018/19 two districts (Namakwa and ZF Mgcawu) reported CFRs of 0%.

Severe Acute Malnutrition Contrary to the national picture that shows a decline in the incidence of SAM, provincially, the NC shows a significant increase in the incidence of SAM from 4,7 per 1 000 children in the population under-5 years for 2016/17 to 6,5 for 2018/19. Inter-district there is no significant variation, except for Frances Baard as an outlier with 10,8 per 1 000 children under 5 years in the population for 2018/19. In contrast, the CFR for SAM remains inconsistent throughout the reporting period, with 5,1% for 2016/17, 6,0% for 2017/18 and 4,2% for 2018/19.

Table 49: Comparison of childhood illnesses by district, 2016/7 – 2018/19

		DIARRHOEA INCIDENCE	DIARRHOEA CF U5 YRS RATE	PROVINCIAL APP TARGET	PNEUMONIA INCIDENCE	PNEUMONIA CF U5 YRS RATE	PROVINCIAL APP TARGET	SAM INCIDENCE	SAM CF U5 YRS RATE	PROVINCIAL APP TARGET
2016/17	RSA	9.0	1.9		34.4	1.9		3.9	8.0	
	NC	9.0	3.8	2.5	20.3	1.6	2.5	4.7	5.1	10.7
	Namakwa	11.5	1.5		21.2	1.7		1.9	-	
	Pixley ka Seme	9.0	3.3		16.3	3.6		5.6	7.6	
	ZF Mgcawu	14.4	4.5		27.3	0.2		4.5	4.5	
	Frances Baard	6.0	2.5		24.1	1.7		5.2	5.6	
	JT Gaetsewe	7.9	7.7		11.6	3		4.9	4.4	
2017/18	RSA	7.1	2.1		29.5	2.1		3.4	7.4	
	NC	7.4	1.7	2	20.7	1.9	1.9	5.1	6.1	8.3
	Namakwa	7.8	-		27.8	1.1		3.2	-	
	Pixley ka Seme	5.6	6.9		18.8	19.0		6.3	12.5	
	ZF Mgcawu	14.4	4.9		25.9	3.8		4.9	4.7	
	Frances Baard	5.4	1.8		24.1	1.4		6.1	6.0	
	JT Gaetsewe	5.8	2		11	2.7		3.7	7.4	
2018/19	RSA	7.2	1.7		20.7	1.7		2.2	7.1	
	NC	8.5	2.4	1.8	25.6	2.3	1.7	6.5	4.3	8.5
	Namakwa	7.7	-		23.2	-		3.6	4.0	
	Pixley ka Seme	5.1	-		15.1	2.1		4.7	1.8	
	ZF Mgcawu	9.7	3.4		22.4	-		3.4	3.0	
	Frances Baard	11.9	3.0		42.9	2.7		10.8	4.6	
	JT Gaetsewe	5.8	4		14.5	2.9		5.9	7.7	

Source: DHIS

Immunisation coverage under-1 year remains below the national target of 91%, as well as below the national average throughout the reporting period. On a year-to-year basis, however, the coverage improved from 71% in 2016/17, to 81,8% in 2018/19. It is concerning to note that coverage within districts was suboptimal across the province during the reporting period, with only the Frances Baard and ZF Mgcawu districts reporting above national target, with 92,7% for Frances Baard, and 93,2% for ZF Mgcawu for 2018/19. Significant to note, is the outliers for 2016/17, where Measles 2nd dose coverage which was above 100% in three districts. This picture, however normalized for the rest of the reporting period. Vitamin A coverage throughout the province remains low.

Table 50: Comparison of EPI Implementation by district, 2016/7 – 2018/19

		IMMUNISATION UNDER 1 YEAR COVERAGE	PROVINCIAL APP TARGET	EXCLUSIVELY BREASTED AT DTAP-IPV-HIB- HBV 3 RD DOSE	MEASLES 2 ND DOSE COVERAGE	PROVINCIAL APP TARGET	VITAMIN A 12 - 59 MTHS COVERAGE	PROVINCIAL APP TARGET
2016/17	RSA	90.9		55.0	105.1		50.3	
	NC	71.0	85.3	38.2	82.7	86.0	52.1	45.0
	Namakwa	85.6		58.2	90.9		77.6	
	Pixley ka Seme	71.1		56.6	99.6		36.8	
	ZF Mgcawu	107.3		61.9	106.3		53.8	
	Frances Baard	88.8		60.4	107.1		59.8	
	JT Gaetsewe	97.0		42.0	112.1		55.3	
2017/18	RSA	84.2		56.0	87.9		52.9	
	NC	74.6	83.1	46.4	77.6	87.0	50.6	47.0
	Namakwa	81.9		56.4	76.9		39.2	
	Pixley ka Seme	73.6		61.7	84.5		45.0	
	ZF Mgcawu	84.5		61.1	88.6		48.1	
	Frances Baard	86.8		63.2	89.1		56.1	
	JT Gaetsewe	87.9		38.5	92.0		53.6	
2018/19	RSA	87.5		55.3	86.3		56.7	
	NC	81.8	85.0	49.1	76.0	90.0	48.2	
	Namakwa	83.8		56.3	76.7		42.9	
	Pixley ka Seme	74.0		61.3	85.0		40.9	
	ZF Mgcawu	93.2		64.5	88.0		48.9	
	Frances Baard	92.7		58.1	89.0		50.9	
	JT Gaetsewe	89.6		39.8	86.2		51.5	

Source: DHIS

Infant PCR test positive rate around 10 weeks generally seems to be improving year on year, with Namakwa as an outlier of 3,0% in the reporting period 2017/18 and J T Gaetsewe with 3,6% in 2018/19. According to the available data, the number of HIV +ve children on ART seems to be mostly concentrated in the Frances Baard and JT Gaetsewe districts. These areas are the more densely populated areas with Frances Baard at around 29.7 people/km² and JT Gaetsewe at around 9 people/km². Frances Baard district is also where most of the Paediatricians are allocated, and where follow-up management of patients occur. There has been a decrease in the number of HIV +ve patients in the province from 2017/18 to 2018/19, which might suggest challenges with retention of care strategies.

TB screening remains inconsistent throughout the province, with the lowest coverage at 27,2% in JT Gaetsewe, and the highest at 80,9% in the ZF Mgcawu district.

Table 51: Comparison of district HIV & TB programmes, 2016/7 – 2018/19

		INFANT PCR TEST POSITIVE AROUND 10 WEEKS RATE	NUMBER OF HIV +VE CHILDREN ON ART	% WITH VIRAL LOAD SUPPRESSION AT 12 MONTHS	% CHILDREN SCREENED AT FACILITIES FOR TB
2016/17	RSA	4.3	536 166	63.1	0
	NC	-	8 192	59.6	-
	Namakwa	-	268	33.3	-
	Pixley ka Seme	-	1 048	61.0	-
	ZF Mgcawu	-	1 354	48.3	-
	Frances Baard	-	3 430	71.4	-
	JT Gaetsewe	-	2 092	65.2	-
2017/18	RSA	1.3	2 144 664	66.9	45.2
	NC	1.7	32 768	70.4	34.1
	Namakwa	3.0	1 072	75.0	43.8
	Pixley ka Seme	2.1	4 192	75.0	40.5
	ZF Mgcawu	2.4	5 416	63.2	54.3
	Frances Baard	1.3	13 720	72.0	27.8
	JT Gaetsewe	1.2	8 368	66.7	19.3
2018/19	RSA	0.9	2 125 296	66.3	79.0
	NC	1.4	30 480	55.7	51.9
	Namakwa	0.0	944	60.0	76.2
	Pixley ka Seme	0.9	3 992	68.0	49.5
	ZF Mgcawu	2.0	4 640	14.3	80.9
	Frances Baard	0.44	13 024	63.0	48.9
	JT Gaetsewe	3.6	7 880	58.8	27.2

Source: DHIS

Child mortality

Significant to note, is the inconsistencies between the different data sets, ie. those collected by StatsSA, those collected at facility levels and even the differences between DHIS and Child PIP.

According to the available data, data collected by DHIS shows an increase in the IHMR inter-district, although the average IMHR provincially remains on average between 4 and 5 per 1 000 live births. IHMR within the Frances Baard and JT Gaetsewe districts remains higher than the rest of the province at between 5 and 6,6 for both 2017/18 and 2018/19. Also of note is the increase in the number of facilities collecting data for Child PIP, although the Namakwa and JT Gaetsewe districts still did not submit Child PIP data. Worth mentioning is the fact that StatsSA as well as the Child PIP collects data according to calendar years, where DHIS is collected according to financial years.

Table 52: Comparison of infant mortality data by district, 2016/7 – 2018/19

	INFANT MORTALITY	REGISTERED DEATHS (STATSSA)	IMR (STATSSA)	HOSPITAL DEATHS (DHIS)	IHMR (DHIS)	N ^o FACILITIES IMPLEMENTING CHILD PIP	HOSPITAL DEATH (CHILD PIP)	IHMR (CHILD PIP)
2016/17	RSA	20 650	19.9	14 422	12.3	259	2 712	3
	NC	821	35.5	415	6.4	11	71	2.2
	Namakwa	35	23.1	26	5.2	No data available		
	Pixley ka Seme	253	88.0	51	5.8		13	2.0
	ZF Mgcawu	122	25.9	56	3.6		10	1.8
	Frances Baard	167	19.2	162	5.9		48	2.4
	JT Gaetsewe	243	45.8	120	14.8	No data available		
2017/18	RSA	19 549	21.1	13 877	11.8	285	2 723	2.7
	NC	694	29.6	299	6.0	16	88	2.0
	Namakwa	52	34.0	17	3.8	No data available		
	Pixley ka Seme	137	45.9	35	5.5		18	3.4
	ZF Mgcawu	137	28.7	41	3.6		28	1.4
	Frances Baard	189	21.4	151	6.8		42	1.6
	JT Gaetsewe	179	33.4	55	10.0	No data available		
2018/19	RSA			14 500	12.3	304	2 393	2.7
	NC			322	6.6	18	40	1.1
	Namakwa	No data available		19	3.6	No data available		
	Pixley ka Seme			29	4.8		12	1.2
	ZF Mgcawu			47	4.0		14	0.8
	Frances Baard			178	8.7		14	2.4
	JT Gaetsewe			49	9.4	No data available		

Source: StatsSA, DHIS & Child PIP

Table 53: Comparison of district child mortality data, 2016/7 – 2018/19

	UNDER-5 MORTALITY	REGISTERED DEATHS (STATSSA)	U5MR (STATSSA)	HOSPITAL DEATHS (DHIS)	IHMR (DHIS)	N ^o FACILITIES IMPLEMENTING CHILD PIP	HOSPITAL DEATH (CHILD PIP)	IHMR (CHILD PIP)
2016/17	RSA	27 657	26.7	16 953	4.5	259	4 054	2
	NC	1 062	46.0	487	4.3	11	117	1.6
	Namakwa	45	29.7	29	2.8	No data available		
	Pixley ka Seme	326	113.4	60	3.3	6	18	1.6
	ZF Mgcawu	162	34.4	67	2.4	4	18	1.4
	Frances Baard	210	24	191	4.8	1	81	1.8
	JT Gaetsewe	317	59.7	140	9.1	No data available		
2017/18	RSA	25 600	27.6	16 087	4.7	285	4 094	1.8
	NC	881	37.6	354	4.2	16	164	1.5
	Namakwa	61	39.9	18	2.1	No data available		
	Pixley ka Seme	176	59.0	42	3.3	9	39	2.0
	ZF Mgcawu	165	34.6	48	2.7	5	39	1.1
	Frances Baard	253	29	184	5.3	2	97	1.6
	JT Gaetsewe	226	42.2	62	6.3	No data available		
2018/19	RSA			16 491	4.7	304	3 442	1.8
	NC			378	4.5	18	62	0.9
	Namakwa	No data available		19	2.0	No data available		
	Pixley ka Seme			33	2.7	9	23	0.6
	ZF Mgcawu			52	2.5	5	23	0.6
	Frances Baard			216	6.6	4	22	1.9
	JT Gaetsewe			58	6.5	No data available		

Source: StatsSA, DHIS & Child PIP

Cause of death

The main causes of childhood death, according to available data, are perinatal conditions; ill-defined; non-natural; other; intestinal infections; malnutrition; influenza and pneumonia.

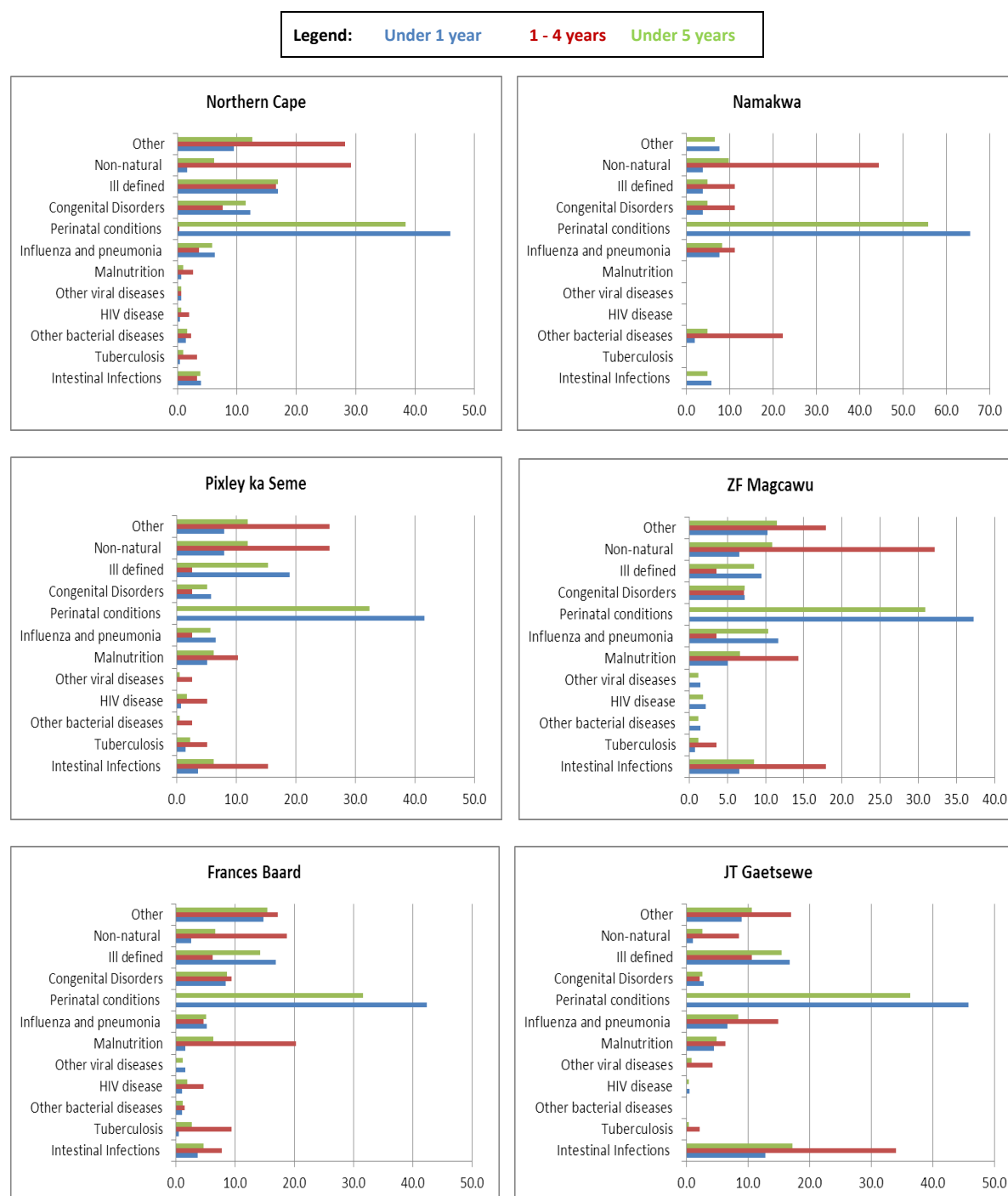


Figure 22: Causes of deaths by age group in each district, 2017
Source: StatsSA

HIV and TB contribute to a very low percentage of deaths in the province. Perinatal conditions form a large part of under-5 deaths, but if you look at deaths in the age category 1

- 4 years, of concern, is the high incidence of deaths categorized as “Non-natural”, “Ill-defined” and “Other”. This constitutes more than 30% of the total number of deaths in the age category and is part of the top five causes of death in the province. The IMCI group of illnesses (Influenza and Pneumonia; Malnutrition and Intestinal infections), although still in the top 10 causes, seems to be contributing much less to the causes of death, as per available data.

Modifiable factors

Important to note, is that more than 30% of all deaths in children under-5 years of age occur within 24 hours of presenting at the reporting facility. Also of note is the fact that modifiable factors related to the home are also above 30%.

Table 54: Distribution of modifiable factor by level of care, 2016 – 2018

		% DEATHS <24 HRS	% WARD	% A&E	% REFERRING FACILITY/TRANSIT	% CLINIC/OPD	% HOME
2016	RSA	34,2	26,8	21,0	7,0	11,7	33,5
	NC	30,2	17,9	9,5	9,5	11,8	51,0
	Namakwa	No data available					
	Pixley ka Seme	27,8	24,0	16,0	4,0	4,0	52,0
	ZF Mgcawu	52,6	34,9	15,1	4,7	9,4	35,8
	Frances Baard	26,5	9,3	6,6	12,4	13,7	58,0
	JT Gaetsewe	No data available					
2017	RSA	34,8	26,3	20,4	8,0	11,3	34,1
	NC	37,1	18,5	12,4	12,4	15,3	43,9
	Namakwa	No data available					
	Pixley ka Seme	56,3	22,0	13,8	6,4	13,8	44,0
	ZF Mgcawu	46,4	31,1	15,4	7,9	17,0	28,6
	Frances Baard	31,3	9,3	4,9	17,2	14,7	54,0
	JT Gaetsewe	No data available					
2018	RSA	33,8	26,4	22,5	7,5	11,3	32,3
	NC	45,8	24,2	9,1	9,1	7,0	47,8
	Namakwa	No data available					
	Pixley ka Seme	85,7	20,0	7,5	10,0	7,5	55,0
	ZF Mgcawu	40,0	26,2	8,2	3,3	6,6	55,7
	Frances Baard	38,5	24,7	16,5	12,9	7,1	38,8
	JT Gaetsewe	No data available					

Source: Child PIP

Data reporting in the province is not optimal, thus presenting a distorted picture of what is really happening in the province. Noting that data quality in the province is either not optimally managed, or verification process is not followed or done, the recommendation would be to:

- Intensify the verification process, with accountability at all levels of authorization.

- Training to health professionals at facility level regarding effective recording, the verification process and data cleaning.
- Connectivity of all facilities needs to be prioritized in order for live capturing and verification to be effective.

RECOMMENDATIONS

The implications of the national recommendations for the province are summarised below:

RECOMMENDATIONS	RELEVANCE TO PROVINCE	CHALLENGES WITH IMPLEMENTATION
Malnutrition:	<ul style="list-style-type: none"> • Promote community based nutritional assessment of all children under 5 by Community Health Workers (CHW); • Training of CHW's regarding nutritional screening and growth monitoring 	<ul style="list-style-type: none"> • Poor integration of services provided by CHW's; • Inadequate number of CHW's covering vulnerable households.
Hospital factors:	<ul style="list-style-type: none"> • ETAT training for all health workers managing sick children; • Basic training of doctors and nurses to include ETAT and IMCI guidelines in their curricula; 	<ul style="list-style-type: none"> • Resources (both human and otherwise)
PHC services for children	<ul style="list-style-type: none"> • Full implementation and training of IMCI at PHC level; 	<ul style="list-style-type: none"> • Resources (human and other)

Additional Province-specific recommendations:

- Paediatric outreach services to the peripheral areas to decrease the burden at the higher levels of care in the province (1 Regional, 1 Tertiary Hospital) as most of the specialized staff are concentrated in these hospital
- Implementation / reporting of Child PIP.
- Data quality
 - Intensify the verification process, with accountability at all levels of authorization.
 - Training of health professionals at facility level regarding effective recording, the verification process and data cleaning.
 - Connectivity of all facilities needs to be prioritized in order for live capturing and verification to be effective.
- Ensure accountability among child health leaders (key clinicians, District Managers and hospital CEOs) by the inclusion of a Key Result Area for Child Health.

WESTERN CAPE

SUMMARY

- *Child mortality in the Western Cape Province decreased significantly over the last decade, but the trend slowed down in the last 3 - 5 years.*
- *The socio-economic conditions are relatively good, but poverty, single households and orphan numbers are still prevalent in high risk areas.*
- *ECD attendance is the low in the province and school fallout is concerning.*
- *Utilization and access to healthcare remains relatively good, but early antenatal clinic visits can improve as well as the prevention of teenage pregnancies. Mother postnatal clinic visits within six days can improve, especially in rural areas. Immunization coverage is good, but can improve in the rural areas. Exclusive breastfeeding rates are low, especially in urban areas.*
- *Most deaths occur in the neonatal period and thereafter before the age of 12 months. Pneumonia and diarrhoea case fatality rates are low.*
- *Most deaths occur early after admission, indicating severe illness and delay in presentation. Malnutrition cases are under reported with high mortality rates for children with SAM. Main causes of death are still infective causes like septicemia and pneumonia. Main underlying conditions include prematurity, birth defects and cerebral palsy. HIV infection was not a major contributor to child deaths. Modifiable factors highlighted the assessment of children as most problematic. The proportion of deaths due to non-natural causes is increasing, especially in the age group 1 - 4 years. Most non-natural deaths in children are due to road traffic accidents, burns and homicide.*

INTRODUCTION

The Western Cape population has increased by more than 100 000 per annum over the last 3 years, a yearly increase of 1,5%. The total population for the province is about 11,4% of the total population of South Africa. Two thirds of the population lives in urban areas in the City of Cape Town Metro. A third of the population are distributed throughout five rural districts, with the largest being the Cape Winelands (14,1%), followed by the Garden Route (9,6%). The Central Karoo has the lowest population density at two people/km², compared to 1 715 people/km² in the Metro. The annual population increase is mainly due to a net migration pattern, which also shapes the age structure and distribution of the provincial population. Over the last 20 years the teenage and young adult age groups have enlarged due to migration as well as lower under-5 mortality. Births stabilized just below 100 000 per annum. Despite an increasing population of women 15 - 44 years, the fertility rate is dropping. In the Western Cape 1 700 000 children are under-15 years of age and contribute 25,7% of the total population, while 8,6% of children are under- 5 years. The rural areas have a slightly higher portion of children under-15 years, compared to the Metro.

SOCIAL DETERMINANTS

The Western Cape province has relatively good socio-economic and service indicators compared to other provinces, although levels of poverty remains high. A high number of children are orphans (6,8%) and live in single headed households, with 38% of households being female headed. About 83,9% of children under-5 years attend ECD centers, the lowest in the country. Although 96,4% of children attended school, there is a high fallout with 54,9% of over 20 years with no matric. The urban areas have less school fallout compared to rural areas.

Living conditions are still poor in some areas. Most people stay in formal dwellings (82,4%) and have electricity for lightning (96,6%). Piped water in dwelling is available in 76,9% and flush sanitation in 90,6% of households. This is far above the national average of 44,4% and 78,3% irrespectively. The unemployment rate is the lowest in the country at 21,6%. Children living in poverty remains high at 36,6%, although it is the lower than in other provinces.

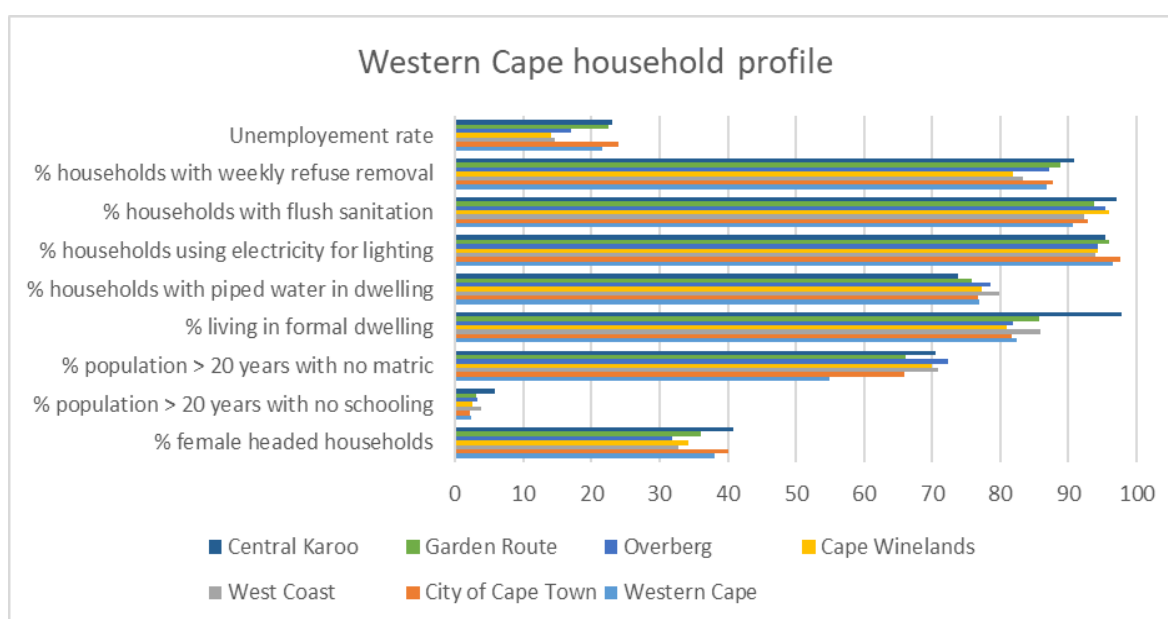


Figure 23: Western Cape Province household profile

Source: StatsSA

HEALTH SYSTEMS

Access to healthcare remains relatively good, although in the rural districts after hour services and traveling distances remains challenging. About 6,5% of children are more than 30 minutes from their nearest health facility (far below the national average of 19,7%). Traveling distances and access to care is a greater problem in the rural districts. Only 20,1% of the population has medical aid coverage, but it is higher than the national average of

15,4%. Rural areas have less medical aid cover, especially in the Central Karoo with only 12,5% of the population covered.

The province has 192 PHC clinics of which 68.3% have Ideal Clinic status. In the public sector there are 73 Community Health Centers, 33 district, five regional and three tertiary hospitals. The province has six TB and four psychiatric hospitals. Although the province has 54 registered community health workers per 100 000 people, it is the lowest in the country (93 per 100 000 population). The province employs more assistant nurses and less professional nurses than any of the other provinces. There are 79 nursing assistants per 100 000 population in comparison with a national average of 68 nursing assistants. In contrast, the province has less enrolled nurses (50 vs 62) and professional nurses (103 vs 144) than the national averages. Most of the registered medical practitioners are in the urban areas with 45,5 per 100 000 population in the Metro compared to 18,8 in the West Coast and 19,2 in the Overberg districts. Registered medical specialists are mostly in urban areas, with a provincial average of 25 per 100 000 population (highest in the country). The same accounts for pediatricians, with most specialists in public sector employed by the three tertiary centers. Occupational and Physiotherapists are relatively well distributed between the rural districts, with a higher number employed in the urban areas. Pharmacists are distributed equally between the districts across the province with a total of 18,9 per 100 000 population.

The maternal death rate is 66,8 per 100 000 live births, which is far below the national average of 105,9 per 100 000 live births. The Central Karoo is the only district above the national average at 188 deaths per 100 000 live births. Antenatal 1st visit coverage for the province is 84%, which is above the national average of 80,8%. Antenatal visits before 20 weeks is 70,3%, with slightly higher visits in the rural districts. Although the delivery rate in 10 - 19 years in facilities is less than the national average, it remains high at 11,1%. Mother postnatal visits within 6 days is the lowest in the country at 57,9% and is especially a problem in the Cape Winelands and Garden Route. Outcomes are much better for those who access antenatal services early, but the percentage of early ANC booking by women under-20 weeks of gestational age have plateaued at 70% since 2016.

MORBIDITY AND MORTALITY PROFILE

The immunization coverage under-1 year for the province has improved over the last four years from 74,8% in 2016/17 to 84,8% in 2019/20 (national average 83,5%). The coverage is better in the Metro (91%) compared to the rural districts (63,7% – 83,8%). Exclusive breastfeeding rates improved slightly over the last 3 years from 31,8% to 39,7% in 2019/20. The breastfeeding rates are better in the more rural areas, like Central Karoo (52,9%) and

Garden Route (49,9%). Measles 2nd dose coverage peaked in 2016/17 at 86% following the measles outbreak in 2015. Thereafter it dropped to 77.9%, but improved again slightly to 79,7% in 2019/20 (national average of 79,5%). The measles coverage is the lowest in the West Coast (64%) and the Cape Winelands (69,7%). The Vitamin A dose coverage improved gradually over the last 3 years from 48,% to 53,8 in 2019. This is still lower than the national average of 56,5%. Infant PCR test positive at 10 weeks were 0,3% for the year 2018/19, lower than the 0,78% national average. Those testing positive from the birth PCR tests are not included in the numerator here, resulting in a better than expected reported performance for this indicator which only measures new positive PCRs at 10 weeks. Birth PCR test positive rate for the province was 0,9% for the year 2018/19. The province had 87 960 HIV positive children on ART for the year 2019/20, of which most were in the Metro, followed by the Cape Winelands district. The province has 4,2% of the national number of children on ART. Viral load suppression at 12 months was achieved in 68,2% of children, slightly higher than the national average of 64,6%. TB screening at facilities improved over the last 2 years from 59% to 87% for 2019/20.

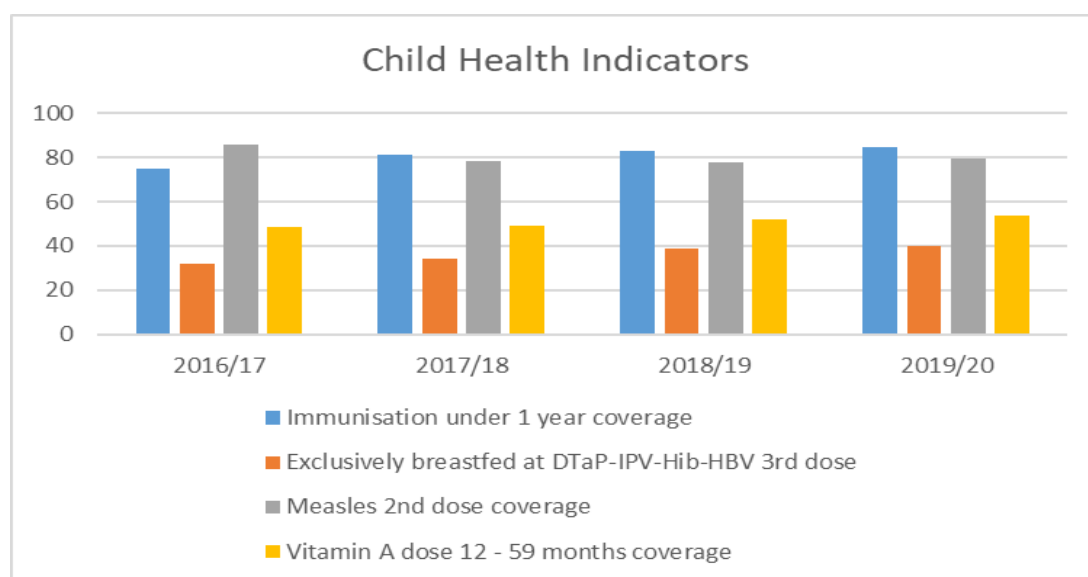


Figure 24: Child Health indicators for period 2016/17 to 2019/20
Source: DHIS

The pneumonia incidence in children under 5 years decreased gradually over the last 4 years from 99,1 to 80,7 per 1 000 population in 2019/20. This is much higher than the national average of 23,5 per 1 000 population. The pneumonia incidence is the highest in the urban areas. The pneumonia case fatality rate for under 5 years improved significantly from 0,7% to 0,2% over the last 3 years. This is much lower than the national average of 2,4% for

2019/20. The diarrhoea case fatality rate for under 5 years also improved from 0,4% to 0,2% over the last 3 years. SAM incidence was reported at 1,7 per 1 000 population for 2019/20, a slight improvement from 2,0 in 2017/18. The SAM case fatality rate under-5 years improved from 2,2% to 1,5% over the last three years.

Child deaths were relatively unchanged over the last three years. According to DHIS data there were 1 066 infant deaths in hospitals for 2019/20. The provincial deaths are 7,1% of the total hospital deaths reported for infants nationally. Most of these deaths were neonatal deaths, followed by deaths in age group 28 days to 1 year. There were a further 100 deaths of children 1 - 4 years old in 2019/20. Most deaths occurred at tertiary hospitals (51%), followed by district hospitals (26%) and regional hospitals (23%).

The maternal death rate was 66.8 per 100,000 live births, which is far below the national average of 105.9 per 100,000 live births. The Central Karoo is the only district above the national average at 188 deaths per 100,000 live births.

In the province 38 hospitals recorded Child PIP data for the year 2019. Most children died in paediatric wards (45,4%), followed by intensive care units (40,3%) and emergency centers (14,1%). Most deaths occurred in the Metro (81,6%) followed by Cape Winelands (8,6%). Forty-seven percent of children who died were female 47,6%. About 25,1% of deaths were readmissions, indicating missed opportunities or children with chronic medical conditions. From the 370 audited deaths, 10,3% were dead on arrival and 26,8% died within 24 hours of admission. This is an indication of the severity of illness and delay in presentation. Half of the patients were referred, 35,9% from another hospital, 10% from clinics and 2,1% from private practitioners. Most deaths were from inside drainage area, but 2,3% of referred patients were from outside drainage area. Nutritional data was not captured well, with a under reporting of especially moderate acute malnutrition. There were 47 audited deaths with severe acute malnutrition, which represent 12,7% of all deaths. The in-hospital mortality rate for children with SAM was very high (2,4%), compared children with no malnutrition (0,1%). HIV infection was not a major contributor, with HIV confirmation in 4,6% of audited deaths and 8,6% HIV exposed children.

Main causes of death were septicemia (18,6%), pneumonia (17,6%), congenital heart disease (6,2%) and acute diarrhoea (3,5%). Main underlying conditions included prematurity (14,3%), birth defects (9,5%) and cerebral palsy (3,2%). From the 370 audited deaths, there were 0,9 modifiable factors per death. Most modifiable factors occurred at home (38,9%), followed by the ward (23,1%), the referring facility and transit (13,4%), casualty (12,8%) and

the clinics (11,9%). Who were responsible included clinical personnel (50,1%), followed by administrators (18,4%) and caregivers (31,5%). The assessment of children was the most common subcategory, including severity of child's condition incorrectly assessed, new danger signs inadequately identified, possible serious bacterial infection not considered, priority signs not recognized and inadequate assessment of shock.

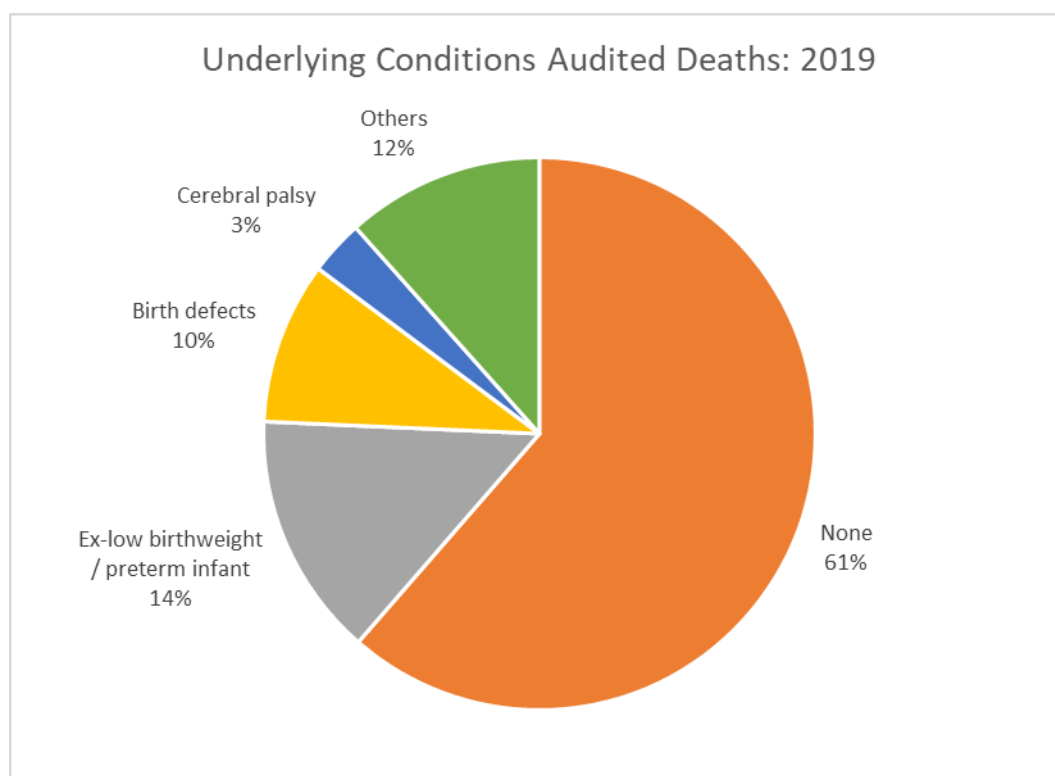


Figure 25: Underlying conditions for audited deaths in the year 2019
Source: Child PIP

The Child Death Review highlighted the contribution of injury, accidents and violence to morbidity and mortality in children. Children under five years of age accounted for two thirds of the admissions, with 31,8% of deaths due to unnatural causes. In children age 1 – 4 years, 66,3% died of non-natural causes, of which most were due to road traffic accidents, burns, abuse and neglect.

RECOMMENDATIONS

1. Prevention, early identification and comprehensive management of children with severe acute malnutrition (SAM).

The province has the lowest incidence of SAM in the country, but malnutrition still contributes significantly to the hospital deaths. In 2019 there were 47 deaths associated with severe acute malnutrition, a total of 12.7% of all audited deaths. Capturing of nutritional

states likely underreported in the province. The prevention, early identification and inpatient management of SAM children is still challenging, especially the stabilization phase and at district level.

Activities required to achieve this recommendation include:

1. Improve capturing of nutritional data at hospital and primary level;
2. Ensure community based nutritional screening of all children under-5 years of age;
3. Capacitate front line staff in the initial management of children with SAM;
4. Implement quality improvement protocols for the integrated management of SAM;
5. District health departments to collaborate with other government departments and NGOs to address social determinants of health and scale up infant and young child feeding programmes to vulnerable households.

2. Strengthen the capacity of community and primary health care services to manage common childhood illnesses.

More than half of all registered under five deaths occur outside the health service, especially after the neonatal period. Acute respiratory infections are still the most common post-neonatal cause of under five deaths in the community. Poor living conditions, improper health knowledge and care seeking behaviour of caregivers contribute to community deaths.

Activities

1. Prevention strategies:
 - a. Ensure immunisation targets are met, provide flu vaccinations to high risk children.
2. Promote early identification of childhood illness
 - a. Provide caregiver support: Blanket project, FTDs initiative, Side by Side, MomConnect.
 - b. Strengthen community health care worker program: MWCH as a key component, link high risk newborns and children for follow-up, strengthen training, distribute equitably, explore therapeutic roles, monitoring and evaluation.
 - c. Strengthen Primary Health care services: Ensure IMCI adherence, dedicated IMCI trained staff to care for children, adequate supervision and mentoring systems of IMCI trained nurses, implementation of Child PACK, low-cost pulse oximeters at every PHC clinic.
 - d. District Hospitals: Enrol Neonatal Pulse Oximetry Screening in all birthing units to identify newborns with cyanotic heart disease.

3. Improve case management of pneumonia, diarrhoea and sick neonates.
 - a. PHC clinics: Ensure IMCI adherence, pulse oximetry at all health facilities for assessing the severity of pneumonia, oral rehydration corners in every clinic, clear referral pathways and functional emergency medical services, strengthening of mobile clinic services to provide primary healthcare to rural farming communities
 - b. District Hospitals: Effective triage system (Paediatric SATS) all emergency centres, improve patient flow and reduce waiting times in emergency departments with the use of an effective health and emergency centre tracking information system (HECTIS) in all emergency centres.
 - c. Information systems: Ensure effective integrated data system with unique patient identifier across the whole service platform, expand the use of an electronic Continuity of Care Record (eCCR) system, ensure an effective data centre with the ability to integrate provincial health data and generate actionable information given to managers for improving healthcare.
4. Create a responsive and accessible health service
 - a. Linkages to care: Link every newborn to a PHC facility on discharge from hospital, ensure that referral pathways are clearly formulated, communicated and implemented.
 - b. Enhance access to care: Extending weekday clinic operating times to accommodate working caregivers, explore opening of clinics on weekends, minimise waiting times for children at PHC facilities.
5. Effective Emergency medical services:
 - a. Monitoring and evaluation systems in place to ensure effective EMS services.
 - b. Ensure ambulances are fully equipped with the appropriate medical equipment and medication, according to the minimum norms and standards of ambulance services.
 - c. Ensure skilled medical practitioners provide quality care based on training: Basic Life Support (BLS), Intermediate Life Support (ILS), Advanced Life Support (ALS / Paramedic).
 - d. Strengthen the dedicated ambulance services for Specialised Paediatric Retrieval Including Neonatal Transfer Teams (SPRINTT), that referral protocols are in place and adhered to.
 - e. Emergency Communications Centres: Employ trained call takers and dispatchers to ensure calls are correctly prioritized and dispatched by the closest ambulance offering the correct level of care to the incident.
6. Audit deaths outside facilities: Strengthen the CDR teams. Ensure the effective collection, review and reporting of data. Identify high risk groups and implement interventions to prevent these child deaths.

3. Create a safe home and social environment for children in order to reduce non-natural deaths, with a focus on road traffic accidents and burns.

The Child Death Review highlighted the contribution of injury, accidents and violence to morbidity and mortality in children. The highest rate of non-natural deaths in children occurs in the 1 – 4 year age group. As the U5MR declines due to better prevention of natural deaths, the proportion of deaths due to non-natural causes increases. The commonest causes of non-natural death in children are due to road traffic accidents, burns and homicide. To address deaths outside hospital facilities and non-natural deaths requires multi-sectoral engagement and collaboration with other departments.

Activities

1. Improve parenting, safety in the home and child protection: Educate parents at antenatal visits on child safety, educate postnatal mothers before discharged on RTHB safety messages, emphasize parental obligations concerning supervision and a safe environment at all child health visits (especially in age group 1-4 years), MomConnect and the Side-by-Side campaign to run safety messages on child safety, equip CHWs to undertake home safety checks.
2. Data monitoring and evaluation of child deaths to be in place. Ensure quality death audits via PPIP, Child PIP and CDR. Ensure data presented routinely to provincial and district managers. Identify high risk groups and develop interventions addressing child safety in these groups. Targeted awareness raising towards decision makers and caregivers.
3. Multi-sectoral and inter-sectoral engagement and collaboration with other department.
 - a. Department of Social Development: Effective registration system for ECDs, promote child safety at these centres, provide or refer parental counselling to high risk children, improve child support grant uptakes, strengthen child protection organizations, support for victims of abuse. Look at ways to support non-registered ECDs.
 - b. Department of Education: Interventions on the prevention of teenage pregnancies, educate children on safety measures in communities, identification and referral of children at risk of child abuse and neglect, put in place measures to decrease school absenteeism and ensure road safety with access to school. Ensure effective transition of managing ECDs from DSD to DoE.
 - c. Department of Agriculture: Look at safety on farms (especially open dams), drive the reduction of crime in farming areas, ensure functional safety and security structures

in the farming communities, assist municipalities with the implementation of rural safety plans.

d. Department of Community Safety and Department of Cultural Affairs and Sport: ensure safe recreational areas and facilities for children, explore and implement youth skills development opportunities.

e. Department of Transport and Public Works: Implement road and pedestrian safety interventions, inter-sectoral collaboration on projects to improve child safety.

4. Strengthen civil registration systems for births and deaths in order to reduce unreported child deaths.

Significant discrepancies between data captured in DHIS, StatsSA and community-based surveys reveals the under reporting of child deaths (especially in neonates) and the registration of births.

Activities

1. Improved registration of births: Establish DHA offices in all health facilities providing maternity services, provide information to all pregnant women on documents required for birth registration, establish protocols to ensure the birth registration of newborn babies admitted to neonatal wards, explore systems for the registration of babies born to foreign nationals.
2. Improved registration of deaths: Ensure that death notification is done at the hospital, establish functional DHA offices in all general hospitals in the public sector, explore the feasibility of the simultaneous registration of a birth and death, ensure the alignment of DHIS, PPIP and Child PIP.

5. Empower households and strengthen community services in order to alleviate barriers to early entry into the health service.

Audits of children who have died in the public health sector reveal that more than half of the identified barriers in the pathway to survival occur before arrival of the child at a hospital. The commonest modifiable factors in the home are delayed entry into the health service and failure to recognise the severity of the child's illness. At the PHC clinic or in transit to the hospital the most factors are missing danger signs and inadequate assessment of the severity of the child's condition. Households must be empowered and community services strengthened so that they are able to effectively implement the pathway to child survival.

Actions

1. Empower and support households

- a. Integrate First 1000 Days, Side-by-Side initiative and well baby clinic visits to support breastfeeding and promote good infant and young child nutrition.
- b. Strengthen the education of mothers and caregivers on the danger signs of childhood illness that are included in the RtHB through CHWs, MomConnect and during each encounter with the health service;
- c. Ensure that mothers and caregivers are aware of local pathways to survival and appropriate sources of care;
- d. Ensure that on discharge from any health facility mothers and caregivers receive an appropriate discharge plan including advice on when to return for routine or emergency review.

2. District management teams must strengthen linkages within the community

- a. Ensure that referral pathways and linkages between levels of care within the health service are formulated, communicated and implemented;
- b. Establish multi-sectoral forums, that include the Departments of Social Development, Agriculture, Labour and Public Works, to ensure that the most vulnerable households in their districts are able to attain household food security;
- c. Ensure that traditional health practitioners are included as part of the child health team and that they receive appropriate training with regard to danger signs and referral pathways.

6. Strengthen the capacity of hospitals to identify and care for acutely sick children by reducing hospital modifiable factors.

The provincial Child PIP data for the province indicates that, outside the neonatal period, the main causes of in-hospital child deaths are due to potentially preventable infective causes. Clinical personnel are responsible for about half of the modifiable factors, followed by administrator factors. The assessment of children was the most common subcategory.

Actions

1. Training of health care professionals:

- a. Training in paediatric South African Triage Scale all medical staff in emergency departments.
- b. Prioritize training of nurses in maternity, neonatal and paediatric care.
- c. Paediatric and neonatal resuscitation in-service training to ground level staff.

2. Resources for acutely sick children
 - a. Ensure a provincial plan for paediatric critical care.
 - b. Establish in ward high care beds in Paediatric units with clear admission criteria
 - c. Non-Invasive Ventilation Guideline for ward and EMS transfers
3. Clinical practices
 - a. Standardize provincial paediatric stationary with early warning signs.
 - b. Effective triage system all emergency departments
 - c. Optimize the use an electronic referral system for hospital referrals (e.g. VULA)
 - d. Ensure outreach and support to district hospitals
 - e. Ensure daily clinical ward rounds in children wards
4. Administrative
 - a. Ensure access to essential equipment for the monitoring and management of critically ill children especially at district level.
 - b. Improve capturing and reporting of clinicom and eCCR data.
 - c. Optimize accurate capturing, analysis and reporting of PPIP, Child PIP and CDR data.
5. Improve the transport and transfer of critically ill children
 - a. Optimize computer aided dispatch and online booking system.
 - b. Ensure SPRINTT, AMS, EMS and ILS criteria are available and adhered to.
 - c. Evaluate and monitor EMS transfer data to identify pressure points.
 - d. Analyse and address adverse events with paediatric transfers.

CHAPTER 5: PROGRESS WITH THE IMPLEMENTATION OF PREVIOUS TRIENNIAL REPORT RECOMMENDATIONS

The 3rd Triennial Report included six recommendations and highlighted specific actions required with respect to each recommendation:

Recommendation 1: Accurate, synchronized data must be available and used to strengthen service delivery for children.

- Data collection must include mortality reporting and review; strengthen of the death notification processes; the roll out Child PIP; and indicators for child trauma and sentinel long term health conditions.
- Encourage data availability and use by establishing dashboards of essential child health data and indicators; and implement systematic local reviews of child health data at district level.

Recommendation 2: Child Health must be a core focus of a functional Community Health Worker programme.

- Assure functionality by increasing the number of CHWs; prioritizing their deployment to the neediest communities; improving employment conditions and ensuring appropriate supervision.
- CHWs must be an integral part of the sub-district health service.
- Child health must be a core function of CHWs

Recommendation 3: District services, including district hospitals, must ensure continuous, holistic service to children who have more specialised and long term conditions as part of the continuum of care.

- *Develop and roll out packages of care for long term health conditions;*
- Establish clear care pathways and referral guidelines;
- Implement an outreach programme to support each level of care in the health service;
- Ensure non-rotation of key clinical staff;
- Ensure DCST support for children with special needs.

Recommendation 4: Restructuring and transformation of Primary Health Care facility based services for children.

- Link maternal and child streams of the Ideal Clinic to other developments in maternal and child health services;
- Develop a “Well child policy”;
- Promote developmental care;
- Integrate maternal and child care;
- Ensure appropriate mentoring of front line nursing staff;
- Roll out Road-to-Health Booklet.

Recommendation 5: Health Systems Strengthening.

- Implement norms and standards for physical facilities; equipment; staff levels and clinical services.

Recommendation 6: Leadership in Child Health.

- Ensure provincial specialist and DCST posts are filled;
- Encouraged leadership among members of child health teams at all levels.

In 2018 a standardised template was distributed to all Provincial Departments of Health for reporting on progress in the implementation of these recommendations at both the provincial and district level.

The following table presents the latest 2020 verified progress report provided by each province.

NB The reports have been edited slightly to fit into the table.

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
1. Accurate, synchronised data must be available and used to strengthen service delivery for children.	Is Child PIP used in all hospitals?	All hospitals doing Child PIP although not all are submitting data regularly	28/32 hospitals doing Child PIP 3 have no children's ward plus 1 is new	20/28 hospitals are doing Child PIP and submitting data	45/ 53 hospitals are using Child PIP Data submission: 18 complete data; 11 incomplete data 17 no data 7 not using Child PIP	37/37 hospitals doing Child PIP Irregular submission due to software & IT problems
	How does the provincial MCWH directorate use the DHIS dashboard prepared by the NDOH each quarter?	To provide feedback to all levels of care via provincial, district and sub-district Quarterly Review Meetings.	Dashboard has been developed with the use of APP Child Health data Indicators	Quarterly provincial DHIS review meeting with all hospital and programme managers	To track performance and identify districts requiring increased investigation or support	Data is shared with district coordinators for analysis, identification of challenges and development of improvement plans.
	Does the province provide similar feedback to each district on a regular basis?	Yes via Quarterly Review meetings	Monthly Nerve Centre meetings to review performance on all child health indicators	During PHC and child health meetings. Health districts conduct monthly and quarterly review meetings	Feedback via quarterly provincial SHP meeting	Provincial dashboards used to identify districts and sub-districts for support & mentoring
	Are regular, systematic reviews of child health data conducted at district and sub-district level every quarter?	Yes - Quarterly Review meetings held in each district – some extend this to sub-district and facility level.	Yes Review meeting are conducted	Yes - monthly and quarterly reviews with sub-district and PHC managers	Yes - Quarterly Child Health Forum in each district Some districts extend analysis to sub-district level.	Yes – The planning, monitoring and response meeting
	What strategies are in place to ensure that these contribute to improved outcomes for children?	Ongoing reviews and meetings with in-service education	Quality Improvement Plans (QIPs) are developed to address identified areas of under-performance	Poor performing facilities are requested to compile Service Delivery Improvement Plans	Each forum meeting identifies action plans and requires a progress report on previous action plans	Hospitals and PHC facilities develop quality improvement plans and responsible programme managers account for activities

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
Accurate, synchronised data must be available and used to strengthen service delivery for children.	Is Child PIP used in all hospitals? If not, indicate the proportion of hospitals that use Child PIP and submit data to the national database.	All 28 hospitals are doing Child PIP and submitting data	All 17 hospitals admitting children are doing and submitting Child PIP data	12/22 hospitals are doing child PIP and submitting data	39/41 hospitals are doing child PIP and submitting data
	How does the provincial MCWH directorate use the DHIS dashboard prepared by the NDOH each quarter? Does the province provide similar feedback to each district on a regular basis?	The DHIS dashboard is circulated to districts & sub districts MCWH, NN Coordinators & DCST; to be further cascaded to health facilities Yes via Midwifery Discussion group meetings and Child Health Forums	Dashboard is compared with local DHIS data and then shared at provincial and district MCWH forums Yes, during quarterly provincial MCWH forums	NDoH not sharing the dashboards anymore At district level, data is accessed from DHIS via Routine Data set for the district Yes, quarterly Management performance meetings with District Management Teams	No, WC has its own data system Monthly reports are shared & reviewed by Rural Health Services on a quarterly basis District coordinators compile monthly reports and disseminate to sub district
	Are regular, systematic reviews of child health data conducted at district and sub-district level every quarter? What strategies are in place to ensure that these contribute to improved outcomes for children?	Yes Monthly in the sub-district & quarterly in the three districts Monthly Child PIP Quarterly District Review meetings Poor performing facilities are supported and mentored by provincial programme managers	Various platforms: <ul style="list-style-type: none"> • Monthly Child PIP meetings • Quarterly District MCWH forum • Quarterly malnutrition and Neonatal forum • Quarterly sub-district and district programme performance reviews Discussion and bottleneck analysis during provincial and district MCWH Forum meetings	During District Perinatal & Child Morbidity and Mortality Meetings, but these are erratic in some districts Active monitoring & reporting of each death within 48 hours	Provincial and District DHIS data are reviewed & discussed Child outcomes are discussed: <ul style="list-style-type: none"> • annually to inform district planning • Monthly at Sub District Management Response Units (MRU) meetings.

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
2. Child health must be a core focus of functional Community Health Worker programmes	No. of active Ward-based outreach teams?	At least 277 WBOTs – no data for 2 districts	121 WBOTs	804 WBOTs	239 WBOTs	279 Outreach Teams
	No of active community health workers	3 416 CHWs in 6 districts	2 262 CHWs	8 529 CHWs on PERSAL with a further 18 being appointed	10 515 CCGs	805 CHWs
	What strategies are in place to ensure that CHWs are capacitated to improve health and nutrition outcomes for mothers and children?	Provided with resource bags containing – scale, BP machine, Vitamin A, deworming, TB screening and HIV testing tools. In-service training on select programmes, and RtHB by RTC, DCSTs and partners.	CHW are trained on child health priorities	OTLS and CHWs underwent 10 week training with ongoing in-service training on an ad hoc basis at PHC facilities based on service needs. Ekurhuleni has a National Pilot Site for WBOT training with partner supoprt	Regular training of Outreach Team Leaders (OTLs) OTL are then required to provide in-service training to their teams Limited coverage with a system of supervision and mentoring by OTLs and PHC Clinic Operational Manager	CHWs are trained on a revised scope that includes maternal and child health modules and are linked to the facilities for support and supervision. They are also trained to recognise danger signs and when to refer to the health facility

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
Child health must be a core focus of functional Community Health Worker programmes	No. of active Ward-based outreach teams?	235 WBOTs	531 WBOTs	WBOTs	
	No of active community health workers	5 819 CHWs	6 167 CHWs	2 356 CHWs	4 135 CHWs
	What strategies are in place to ensure that CHWs are capacitated to improve health and nutrition outcomes for mothers and children?	Capacity building on basic priority programmes (MCWYH, Integrated Nutrition and Expanded Programme on Immunization	CHW training incorporated into RTC provincial training plan	Formal training by RTC, with support of programmes CHWs are trained with old curriculum	Maternal and child health services are part of the core functions of the CHW's CHW undergo the standardised NDoH training and are regularly updated regarding new protocols and policies.

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
3. District services including District Hospitals must ensure continuous, holistic service to children who have more specialised and long-term conditions as part of the continuum of care	Are clear care pathways and referral guidelines for acutely ill children in place?	Yes in 7 districts and awaiting approval in the 8 th	Referral pathways have been established between all levels of care; including back referrals	Yes – acutely ill children are referred to next level of care as per health condition and guidelines	Yes Provincial guidelines exist In use in 10/11 districts	Yes The province has clear defined package of care and referral guidelines for each level of care
	Please describe mechanisms whereby clinicians caring for children at district hospital level receive support from clinicians working at Level II, III and IV hospitals.	Outreach by facility specialists and/or DCSTs : <ul style="list-style-type: none"> On-site in 6 districts Off-site in 2 districts In-reach in 2 districts	The paediatricians from the Tertiary and Academic conduct outreach to the regional hospitals	DCST paedics do weekly clinical work at district hospitals. WhatsApp group for neonatal referrals	Provincial paediatric outreach programme <ul style="list-style-type: none"> On-site - monthly support in 7 districts Off-site - weekly & daily telephonic support in 10 districts No outreach and minimal support to lower levels of care in 1 district	Specialists do outreach visits to district hospitals for patient care and capacity building There is 24 hour open communication pathways for discussion of challenging cases as and when they occur
	What is the role of DCSTs in ensuring care of children with specialised needs are able to access specialised services outside of the district?	No clear role Some facilitate access through liaison between levels of care, others provide clinical care	Paediatricians from the Regional hospitals and paediatric nurse specialists from the DCSTs conduct outreach programmes to district hospitals	DCST attends Hospital Cluster Quarterly Review meetings for discussion of referrals and other challenges and implementation of remedial actions	No clear provincial SOP Role of DCST limited to facilitation and sharing of resources Each tertiary hospital responsible for its full catchment population with good buy in in Areas 2 & 3 Provincial roll out of standard record for children with LTHC	DCSTs redeployed to areas of need including regional hospitals for Specialist doctors since 2018

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
District services including District Hospitals must ensure continuous, holistic service to children who have more specialised and long-term conditions as part of the continuum of care	Are clear care pathways and referral guidelines for acutely ill children in place?	Yes – that guide clinicians on how and where to refer Referral policy IMCI Chart booklet and STG also used		Yes, clear referral guidelines and pathways	Yes, community and acute hospital
	Please describe mechanisms whereby clinicians caring for children at district hospital level receive support from clinicians working at Level II, III and IV hospitals.	Telephonic support only		No outreach Promoting off site support via Dropbox & telephone In reach	Monthly outreach visits and telephonic support Support via the Vula app
	What is the role of DCSTs in ensuring care of children with specialised needs are able to access specialised services outside of the district?	On-site support and mentoring Accessing clinical services outside the district is done by facility based specialists		No DCST Paediatric specialist in all districts Facility based support & referral to Robert Mangaliso Sobukwe Hospital for specialized care	Outreach from level 3 hospitals to ensure access to specialized care The district & outreach paediatricians facilitate the referral and assistance of children needing specialized services Linkage from hospital or clinic level via therapist to specialist services

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
4. Primary Health Care facility-based services for children	What systems are in place to ensure that frontline nurses providing MCH services are supervised and mentored?	Monthly cluster meetings and support visits by PHC supervisors	There is a link of the Maternal and Child Health streams of the Ideal Clinic to maternal and child health services	Health facilities are encouraged to have Child Health Champions who monitor other IMCI trained Professional Nurses and capacitate frontline nurses to deliver quality health care services. IMCI case management trainings are still conducted at district level. Ekurhuleni has included ETAT module 1 (triage) into ICMI training. Supervisory support visits by MNCWH team in collaboration with DCST	Two PHC IMCI supervision programmes have been piloted These have now been merged into a single integrated supervision tool and process This is being tested and refined in iLembe	Facilities are visited and on site mentoring conducted Perinatal review meetings are conducted with feeder clinics to identify challenges & develop Quality Improvement Plans are monitored for implementation Training of health care professionals & mentoring are conducted through the support of partners
	What strategies are in place to promote integration of maternal and child care at primary level health facilities? How is the new RTHB being used to improve integration?	Implementation and on-site mentoring of MCH stream of Ideal clinic Not fully implemented and not used for this purpose	Implementation of Ideal clinic MNC stream Not fully implemented and not used for this purpose	IMCI Strategy is implemented in all PHC facilities. Maternal and child health streams are in the same wing in most PHC facilities Implemented in all health districts. Utilised by Health promoters to structure education and CHWs in household and crèche visits	Implementation of Ideal clinic single MNC stream 469/601 (78.0%) of PHC clinics have achieved Ideal Clinic status (39 platinum, 241 gold, 189 silver) Alignment of CCG tool and IMCI well child checklist with RTHB streams	Each clinic is practising Ideal clinic model with MCWH stream which cater for mothers & Training on the new RTHB which includes first 1000 days concept which promotes integration where both the mother & child are being taken care of

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
Primary Health Care facility-based services for children	What systems are in place to ensure that frontline nurses providing MCH services are supervised and mentored?	PHC supervision tool and onsite in-service training Mentoring and supervision	Technical support visits by provincial program managers Clinical MCWH and nutrition coordinators, and DCSTs undertake support, mentoring and supervision visits	Facility visits by district MCWH co-ordinator, DCST members & Provincial MCWH programme managers Mentoring by facility managers and coordinators	Incorporated as part of normal supervision processes All current and new staff are update with each update of the PACK (BANC) and IMCI manuals by trainers
	What strategies are in place to promote integration of maternal and child care at primary level health facilities? How is the new RTHB being used to improve integration?	Implementation of Ideal clinic MNC stream Serves as a health promotion tool with messages for the mother Utilized to capacitate CHW and WBOTS on child health services Record all services rendered in children	Centralised training on the new Road to Health Booklet was conducted for HCWs in 2018 with follow up facility and sub-district training	Ideal clinic with 3 streams and dyad CHWs, Nurses, peer educators, nutrition are conversant with RTHB, all ensure that primary caregivers understand it through health promotion	Facility based coordinators support facilities with integration Appointment systems for moms and babies to be seen together RTHB: Integration starts during the ante-natal period All healthcare professionals (public & private) are trained and motivated on the use and completion of the booklet

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
5. Health Systems Strengthening.	Does the province have a standardised record keeping system (including a standardised ward register) for all children admitted to hospital?	Standardised register but no standardised clinical records Previously had standardised neonatal record in 1 district	Standardized record keeping system exist	Yes - standardised electronic register in all districts Presently implementing new National electronic paediatric register	Yes -standardised NN & paediatric records being rolled out ADD register for wards in place since 2009 Developing register for OPD	Yes All hospitals have a standardised paediatric admission register
	Does the province have a standardised system for paediatric triage that is used in all hospitals and CHCs? How is this monitored?	ETAT Some regional/tertiary hospitals also use SATS Support visits or record audits	Triage is done in emergency centres of all hospitals, although smaller district hospitals do not have separate areas in their casualties to triage children Through facility visits.	Hospitals have their own triage tools and systems Plans to develop and roll out standardized paediatric triage system	ETAT Record audit and annual accreditation programme	ETAT Monitored via facility audits
	What strategies are in place for ensuring that all hospital wards have effective early warning scoring systems (PEWS) and standard treatment guidelines?	EDL, pocket book and EC Child and Maternal Health Handbook available in most facilities No early warning systems in place	The standard treatment guidelines and pocket book of hospital care for children are available in facilities The Paediatric Early Warning scoring system is not fully implemented	Child PIP is used. Paediatric mortality meetings held monthly and avoidable factors discussed in depth. Quarterly paediatric HoD meetings. Paediatric EDL, protocols and guidelines are available	PEWS tool developed and integrated into standardised record Guidelines in place – EDL, STG as well as CHERP	STG and Essential Medicine List for Paediatrics and Primary Health Care are in each consulting room Paediatric Pocket Books Clinical audits are used during facility support visit to monitor implementation of STG

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
Health Systems Strengthening.	What strategies are in place to ensure that ward rounds are conducted regularly in all children's wards (at least twice daily on week days and daily over weekends and public holidays)?	Staff allocation and call or duty rosters	Ward rounds are conducted daily in district hospitals and twice daily in regional and tertiary hospitals A monitoring tool has been developed which is signed off by the Clinical Manager	Ward rounds are conducted once daily, some do round twice daily on weekdays and once over weekend and public holidays	Provincial SOP which incorporates the "Red flag / Blue flag" system	Clinical oversight by clinical managers Ward rosters are kept by the responsible facility managers at all levels of care
	How is this monitored?	Monitored through random chart audits			Monitored by outreach paediatrician and DCST	Ward round book
	What strategies are in place to ensure that every child death is reported and audited?	Child PIP and mortality meetings DCSTY notified in some districts	Every child death is reported and audited and presented at the weekly/bi-weekly/monthly M&M meetings Death reporting is being conducted on SAC system	Paediatric mortality meetings are held monthly. Paediatric HoDs meetings are done quarterly	Consolidated death report SOP Monitored by DCST and provincial office	Each death is reviewed within 24 hours to the hospital management All deaths are captured in Child PIP

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
Health Systems Strengthening.	Does the province have a standardised record keeping system (including a standardised ward register) for all children admitted to hospital?	Yes Standardised register but no standardised clinical records	Adopted NDoH paediatric data collection tools in all hospitals	Paediatric Admission Registers are implemented in all 22 facilities admitting children	Yes There is a standard admission register for all paediatric ward.
	Does the province have a standardised system for paediatric triage that is used in all hospitals and CHCs? How is this monitored?	ETAT and IMCI Clinical audits	ETAT Audits by DCSTs	No In district hospital only Robert Mangalliso Sobukwe Tertiary Hospital & Dr Harry Surtie Regional Hospital	Standardised system and stationery using TEWS scoring IMCI is used in CHC's Ideal Clinic- & Ideal Hospital Audits. Monitoring via audits and folder reviews
	What strategies are in place for ensuring that all hospital wards have effective early warning scoring systems (PEWS) and standard treatment guidelines?	Distribute and monitor the availability of STGs to all health facilities	No PEWS EDL, Hospital pocketbook and IMCI chart booklet and SAM protocols	Guidelines have been distributed to PHC & facilities admitting children and are in place	New nursing stationery with early warning systems is about to be rolled out to all hospitals STG guidelines are available via the app and computer desktops in facilities

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
Health Systems Strengthening.	What strategies are in place to ensure that ward rounds are conducted regularly in all children's wards (at least twice daily on week days and daily over weekends and public holidays)?	Allocation of dedicated doctor to paed wards Some hospitals have notebooks for recording doctor's rounds Recording on patient's files	Once or twice daily during the week and once on weekends Monitored by file audits and by matrons in district hospitals	Duty roster for doctors In which doctors are allocated to do rounds Twice daily in regional and tertiary hospitals but not in all district hospitals due to staff shortages.	Rounds on weekdays and weekends. Folder audits are done randomly Family Physicians are appointed at all district hospitals and are responsible for clinical
	How is this monitored?	Clinical audits			
	What strategies are in place to ensure that every child death is reported and audited?	All deaths are recorded on the admission paediatric register Child PIP Deaths are audited	Real time reporting Mortality meetings using Child PIP DCST oversight	24 hour death reporting to the Paediatric Dyad Death audit is done within 48 hours with feedback/discussion at Perinatal & Child Morbidity & Mortality Meetings	Active monthly child PIP and M&Ms Monthly Child Death review from Forensic Pathology Services PSS data monitoring and reporting

RECOMMENDATION	QUESTION	EASTERN CAPE	FREE STATE	GAUTENG	KWAZULU-NATAL	LIMPOPO
6. Leadership and Accountability	Is there a provincial paediatrician? If not, why not?	No – a DCST covers part of this function	No – Resigned	No – province receives assistance from Academic HoDs	Yes	No The Department appointed a head of the Department of Paediatric Services based at Tertiary Level to oversee Child Health Services in the Province
	Please indicate whether complete DCSTs are present in each district. Please give reason for lack of complete teams.	None – both nursing and medical posts are vacant No funding or posts are rural and unpopular	No Only 3 DCST paediatric nurses but no DCST paediatrician	Ekurhuleni and Johannesburg are complete. Sedibeng – no O&G or paed West Rand no paed Tshwane no Fam Phys	None - no anaesthetists 2 x 6 member teams 3 paediatricians 7 Family Physicians 11 Paeds nurses 10 PHC nurses	DCST's have been deployed to areas of need in the province since 2018 due to shortage of specialists at Regional & Tertiary Hospitals
	What Key Result Areas related to child health outcomes are included in the performance agreements of: <ul style="list-style-type: none"> District Managers? Clinical Managers? Hospital CEOs? 	None Roles are seen to have a focus on strategic leadership; ensuring a social compact and programme or project management	District Managers – Reduce maternal, neonatal, infant and child mortality Clinical Managers – Reduce adverse events and morbidity and mortality rate Host outreach visit from referring clinics Hospital CEOs – Support clinical care and clinical governance Optimize and support implementation of key priority programmes	Hospital CEOs and clinical managers – DHIS facility based child mortality indicators District Managers – DHIS PHC indicators	In broad terms only. No standardised requirement. MANCO agreed in 2015 to include a KRA on Mother and Child Survival in the PA of all District Directors and CEOs but this was not implemented	There are no specific key result areas attached except that they oversee all indicators aligned to APP and DHP

RECOMMENDATION	QUESTION	MPUMALANGA	NORTH WEST	NORTHERN CAPE	WESTERN CAPE
Leadership and Accountability	Is there a provincial paediatrician? If not, why not?	No Unavailability of applicants due to rural area	No No post	No Financial constraints	No, there is a Provincial Coordinating and Governance Committee for Child Health, Neonatal Medicine and Paediatrics (PCGC)
	Please indicate whether complete DCSTs are present in each district. Please give reason for lack of complete teams.	Only in 1 district Redeployment	None No anaesthetists 2 Obstetricians 2 Adv midwives 4 paediatricians 3 paediatric nurses 4 family physicians 4 PHC nurses	No complete teams 5 Family Physicians 1 Paediatric Nurse Limited funding and lack of specialists to recruit to fill the posts	No DCST's, only: Provincial PCGC's District paediatricians and district hospital based paediatricians in the Metro Regional hospital based paediatricians in each of the rural areas
	What Key Result Areas related to child health outcomes are included in the performance agreements of: <ul style="list-style-type: none"> District Managers? Clinical Managers? Hospital CEOs? 	Reduction of Child Mortality is one of the NDP indicators and therefore is a provincial priority All CEOs, Clinical Managers and District Managers are having it as KPA	Infant and Under-5 Mortality rates Case fatality rates Vit D supplementation	KRAs for the District Directors & CEOs are standardised including Maternal & Child Programme	1st 1000-day strategy forms part of the service delivery KRA of all staff in the district KRA's are linked to service delivery Overall management and integration of all services Completion of DHP and APP targets

CHAPTER 6: RECOMMENDATIONS

INTRODUCTION

In this 4th Triennial report of the Committee on Morbidity and Mortality in Children under 5 years the committee has deviated from the broader focus on child wellbeing adopted in previous reports to refocus its attention on child survival. Over the past 10 years although the number of child deaths has decreased the primary causes of child mortality and many of the contributory factors have not changed despite the adoption of previous CoMMiC recommendations. In light of this the committee thought that further consideration of these factors was justified.

Following a review of previous CoMMiC reports the following seven themes were identified:

- Malnutrition
- Deaths outside the health service
- Non-natural deaths
- Unreported deaths
- Pre-hospital modifiable factors
- Hospital related modifiable factors
- Primary care for children – including “at risk children”

A review team of three or more committee members was identified for each theme and tasked with:

- Defining a rationale for the selection of the theme;
- Reviewing data, relevant to the theme, from previous CoMMiC reports, published literature and external experts;
- Reporting on the findings from this review;
- Identify possible interventions required to address the contribution of the theme to childhood morbidity and mortality in South Africa.

RECOMMENDATION ONE: PROMOTE THE PREVENTION, EARLY IDENTIFICATION AND COMPREHENSIVE MANAGEMENT OF THE STABILIZATION PHASE OF CHILDREN WITH SEVERE ACUTE MALNUTRITION (SAM).

RATIONALE

- South Africa's year-on-year SAM CFR remains consistently above the World Health Organization's (WHO) threshold of 5%, with levels in the EC, LP and NW provinces around 10% and a third of districts have a SAM CFR above 9%;

Table 55: Severe acute malnutrition case fatality rates, 2011 – 2019.

PROVINCE	2019	2018	2017	2016	2015	2014	2013	2012	2011
EC	10.0	8.9	11.8	10.2	11.5	12.5	14.8	13.7	14.7
FS	5.8	6.2	7.5	9.6	9.8	12.2	11.4	9.0	11.2
GP	5.9	6.8	6.2	6.5	7.5	8.7	7.1	12.0	7.5
KZN	7.3	7.8	7.7	7.4	9.0	9.6	10.8	10.7	10.8
LP	7.9	6.3	5	8.3	13.7	14.6	16.6	17.1	16.7
MP	10.7	9.1	9.1	8.4	14.1	17.8	13.2	15.7	13.1
NW	12	9.3	8	10.6	11.1	13.4	10.9	10.4	11.7
NC	4.7	4.3	6.1	5.1	9.1	10.9	11.4	8.6	11.1
WC	1.5	1.6	2.2	0.59	1.3	1.9	2.8	4.7	3.4
RSA	7.7	7.1	7.4	8.0	8.9	11.6	12.0	12.2	13.5

Source: DHIS

- Despite a sustained reduction in the national SAM CFR since 2011 one in four childhood deaths are associated with starvation, increasing to a third in the FS, LP and NW provinces;
- This situation is expected to worsen due to the socioeconomic and health systems impact of the COVID-19 pandemic;¹⁰
- Whilst the determinants of SAM are complex poor treatment outcomes for children with SAM include proximal factors such as the severity of the child's condition on admission, shortage of competent clinical personnel, sporadic shortages of medical supplies and failure to sustain the quality of clinical care.¹¹
- Despite the need for urgent management to prevent death¹² modifiable factors from Child PIP identify the late recognition and referral as well as the limited capacity of

¹⁰ Headey et al. Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. Lancet 2020; 396:519-521

¹¹ Muzigaba et al. Management of severe acute malnutrition in children under 5 years through the lens of health care workers in two rural South African hospitals. Afr J Prm Health Care Fam Med. 2018;10(1), a1547

¹² UNICEF. Management of severe acute malnutrition in children: working towards result at scale. New York; 2015

frontline health staff to respond to and manage SAM as being important factors contributing to mortality.

KEY FINDINGS

Improved screening, early detection and appropriate responses needed

- The underlying issues resulting in SAM are the general poor feeding and nutrition of infants and young children;
- The early detection of children with poor growth does not occur as screening tools are not use effectively at PHC level;
- Apart from KZN a streamlined process for the appropriate and efficient management of SAM cases is poorly executed, monitored and reported.¹³

Need for capacitated front-line staff to effectively manage SAM children

- Non-compliance with guidelines for the integrated management of malnutrition is recognized as a major contributor to the high SAM-case fatality rates in provinces and across districts.^{4, 14}
- There is an urgent need to strengthen healthcare worker responses and case management for children with SAM in hospital A&E departments, children's wards and PHC clinics.
- Quality control and accountability for the integrated management of SAM need to be improved.
- Every household with a child under-5 years of age must be monitored and supported to empowered families and facilitate the early detection of growth faltering.
- Nutrition-sensitive programmes and approaches that support vulnerable food insecure households, such as targeted social support, food assistance education and employment must be supported to mitigate malnutrition.

RECOMMENDATION

Prevention, early identification and comprehensive management of the stabilization phase in children with severe SAM by strengthening competencies in healthcare worker responses and case management

¹³ Mambulu-Chikankheni et al (2017). A critical appraisal of guidelines used for management of severe acute malnutrition in South Africa's referral system. Health Research Policy and Systems 2017; 15:90

¹⁴ Puoane et al (2001). Evaluating the clinical management of severely malnourished children- a study of two rural district hospitals. South African Medical Journal 2001; 91(2):137-41

ACTIVITIES

The implementation of the above recommendation requires adoption of the following activities:

1. Short term / Immediate

- Ensure community-based nutritional screening of all children under 5 years of age by CHWs:
 - Targets for the number of children to be screened must be identified and suitable supervision processes established to ensure that the targets are met;
 - Referral pathways and criteria must be established to ensure that children with growth faltering promptly access appropriate nutritional evaluation and support.
- Capacitate front line staff in the initial management of children with SAM:
 - All staff in outpatient, A&E and paediatric departments must be trained in ETAT;
 - Onsite mentoring and monitoring must be provided by DCST members;
 - Enforce the non-rotation of staff that has been trained in the management of children with SAM.

2. Medium term / Deferred

- Implement quality improvement protocols for the integrated management of SAM including SAM clinical and mortality audits;

Senior clinicians (clinical manager; paediatrician or DCST member) must ensure that audits are conducted and redress actions completed.

- District management teams must collaborate with other government departments such as DSD, DHA, SAPS and SASSA in order to:
 - Address social determinants of health; and
 - Scale-up infant and young child feeding programmes to provide feeding information and food assistance for vulnerable households.

RECOMMENDATION TWO: STRENGTHEN THE CAPACITY OF COMMUNITY AND PRIMARY HEALTH CARE SERVICES TO MANAGE COMMON CHILDHOOD ILLNESSES.

RATIONALE

- Almost half (41.8%) of under-5 deaths occur outside the health service;

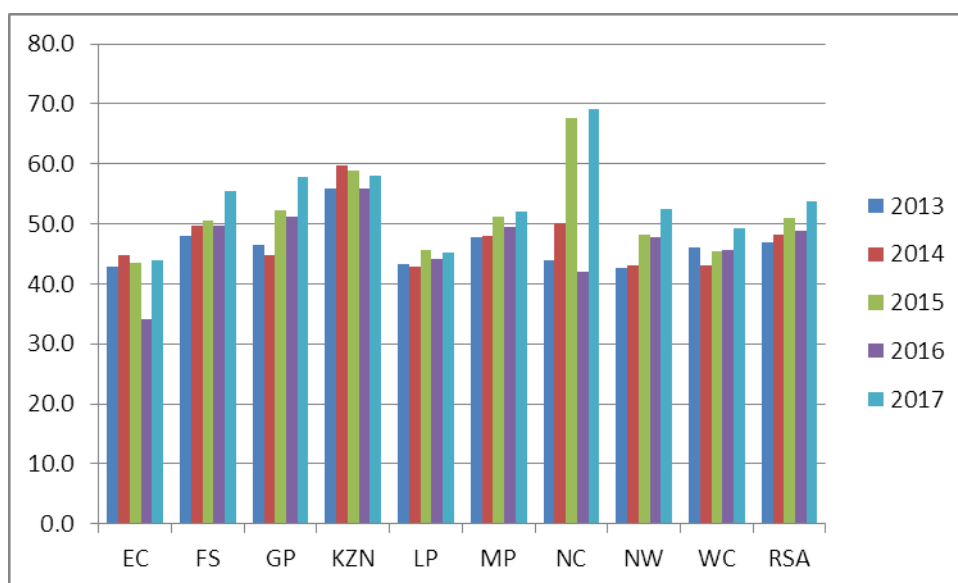


Figure 26: Trend in the proportion of under-5 deaths occurring inside the health services by province, 2013 - 2017

Source: StatsSA

- There is limited data on the cause of under-5 deaths outside the health service;
- However data from demographic surveillance sites¹⁵, facility based mortality audits¹⁶ and forensic mortuaries¹⁷ have suggested that the cause of under-5 deaths outside the health service is similar to that of children dying inside the health service with pneumonia accounting for 31% of infants deaths beyond the newborn period and a increasing proportion of non-natural deaths in the 1 – 4 year age group;

RECOMMENDATION

Reduce childhood deaths outside the health service by strengthening the capacity of community and primary health care services to manage common childhood illnesses.

ACTIVITIES

The following activities are required to achieve the above recommendation:

1. Promote the early identification of common childhood illnesses (particularly pneumonia, diarrhoea and sick neonates) via:

- Caregiver support:

¹⁵ Personal communication from Agincourt and Africa Centre Demographic Surveillance Sites.

¹⁶ AE Reid, MK Hendricks, P Groenewald, D Bradshaw. Where do children die and what are the causes? Under-5 deaths in the Metro West geographical service area of the Western Cape, South Africa, 2011 *S Afr Med J* 2016;106(4):359-364.

¹⁷ S Mathews, L J Martin, D Coetzee, C Scott, T Naidoo, Y Brijmohun, K Quarrie. The South African child death review pilot: A multiagency approach to strengthen healthcare and protection for children. *S Afr Med J* 2016;106(9):895-889.

- Improved knowledge through MomConnect messages;
- Improved use and understanding of the Road-to-Health Book (RtHB), and access to the national Side-by-Side campaign;
- Improve health seeking behaviour through the education of the entire household by CHWs regarding danger signs.
- Community health care worker (CHW) activity:
 - A key component of CHW work needs to be centred around maternal and child health;
 - The training of CHWs should focus on practical aspects of child health including use of the RtHB and common danger signs and must include exit competency assessments;
 - CHWs must be trained and equipped to engage with communities and cultures in order to promote behaviour change (be behaviour change agents);
 - Systems must be established for the ongoing mentoring and support of CHWs;
 - In order to ensure regular and effective support of households a realistic and context specific (urban, peri-urban or rural) CHW to household ratio is required;
 - The role of CHWs should be expanded to include an appropriate therapeutic function.
- Traditional health practitioner engagement:
 - Traditional health practitioners need to be included in the child health team;
 - Programmes are required to improve their knowledge of danger signs in children and their referral practices.
- Primary health care clinic responsiveness:
 - Insist on the use of IMCI case management guidelines for every PHC encounter;
 - Make low-cost pulse oximeters available at every PHC clinic for detection of hypoxia secondary to pneumonia.

2. Improve the case management of pneumonia, diarrhoea and the sick newborn at all levels of care

- PHC clinics:
 - Insist on the use of IMCI case management guidelines for every PHC encounter;
 - Institute adequate mentoring and supervision of IMCI trained nurses at clinics;
 - Ensure that IMCI trained staff are deployed to child health related activities on a non-rotating basis;
 - Establish functioning oral rehydration corners in every PHC clinic;
 - Implement pulse oximetry screening for severity of pneumonia at all PHC clinics;

- Identify clear referral pathways for children to the next level of care;
- Improve access to emergency medical services, to facilitate urgent transfers to the next level of care.
- District hospitals;
 - Ensure the effective implementation of ETAT;
 - Identify clear referral pathways for children to the next level of care;
 - Ensure access to efficient emergency medical services to facilitate the timely transfer of sick children to the next level of care.

3. Create a responsive and accessible health service

- Linkages to care:
 - Link every newborn to a PHC facility and WBOT on discharge from hospital.
 - Link children who have been admitted in hospital to a PHC clinic and WBOT on discharge from hospital;
 - Ensure that referral pathways and linkages between levels of care are formulated, communicated and implemented.
- Enhance access to care
 - Improve access to PHC services for caregivers of children through:
 - a. Extended operating hours on both weekdays and weekends to accommodate working caregivers;
 - b. Implement maximum waiting times for sick and well-care children.
- Functional referral systems
 - Emergency medical services must:
 - a. Establish and implement policies, protocols and processes for the efficient transfer of sick children between health facilities;
 - b. Ensure that all EMS personnel are familiar with the basic care of newborn babies as well as the care of children with pneumonia or diarrhoea.
 - Facility management teams must establish appropriate mechanisms to monitor and evaluate all transfers of children to and from their institution;
 - District management teams must ensure a progressive improvement in the referral and transfer systems in their district.
- Improve data
 - Improve understanding of under-5 deaths through the roll out of verbal autopsies at existing and new demographic surveillance sites. A broader representation of verbal autopsy in South Africa may assist with identifying local or regional contributing factors leading to child deaths outside the health sector.

RECOMMENDATION THREE: CREATE A SAFE HOME AND SOCIAL ENVIRONMENT FOR CHILDREN IN ORDER TO REDUCE NON-NATURAL DEATHS, WITH A FOCUS ON ROAD TRAFFIC ACCIDENTS AND BURNS.

RATIONALE

- The South Africa National Development Plan¹⁸ envisages a life expectancy of at least 70 years by 2030 in part through a 50% reduction in injuries, accidents and violence and achieving an U5MR of < 30/1,000 live births.
- The Sustainable Development Goal 3.6 aims to “By 2020, halve the number of global deaths and injuries from road traffic accidents “.¹⁹
- The 3rd Global Ministerial Conference on Road Safety:²⁰
 - Recognized and reaffirmed the importance of health-related SDGs, with a particular focus on achieving global road safety targets;
 - Acknowledged that road traffic crashes are the leading cause of death for children and young adults aged 5–29 years; kill more than 1,35 million people every year, over 90% of whom live in low- and middle-income countries;
 - Emphasized the need to focus on managing speed.
- The national child homicide study²¹ estimated that 1 018 children died as a result of homicide in 2009, with 44.6% of them being due to abuse and neglect.

KEY FINDINGS

- In 2016 12.7% of the 31 117 deaths below 15 years of age were due to non-natural causes, ranging from 3.4% in infancy to a peak of 39.1% in the 5 - 9 year age group.
- Across all provinces the greatest impact of non-natural deaths in children below 5 years of age occurs in the 1 – 4 year age group.

¹⁸ National Planning Commission. National Development Plan: Vision for 2030. Pretoria: National Planning Commission, Office of the Presidency; 2012.

¹⁹ United Nations. Transforming our world: the 2030 agenda for sustainable development. New York (NY): United Nations; 2015 (<https://sustainabledevelopment.un.org/post2015/transformingourworld>).

²⁰ Stockholm Declaration. Third Global Ministerial Conference on Road Safety: Achieving Global Goals 2030 Stockholm, 2020.

²¹ Mathews, S, Abrahams, N, Jewkes, R, Martin, LJ, Lombard, C. The epidemiology of child homicides in South Africa Bull. World Health Organ. 2013; 91(8). doi.org/10.2471/BLT.12.117036

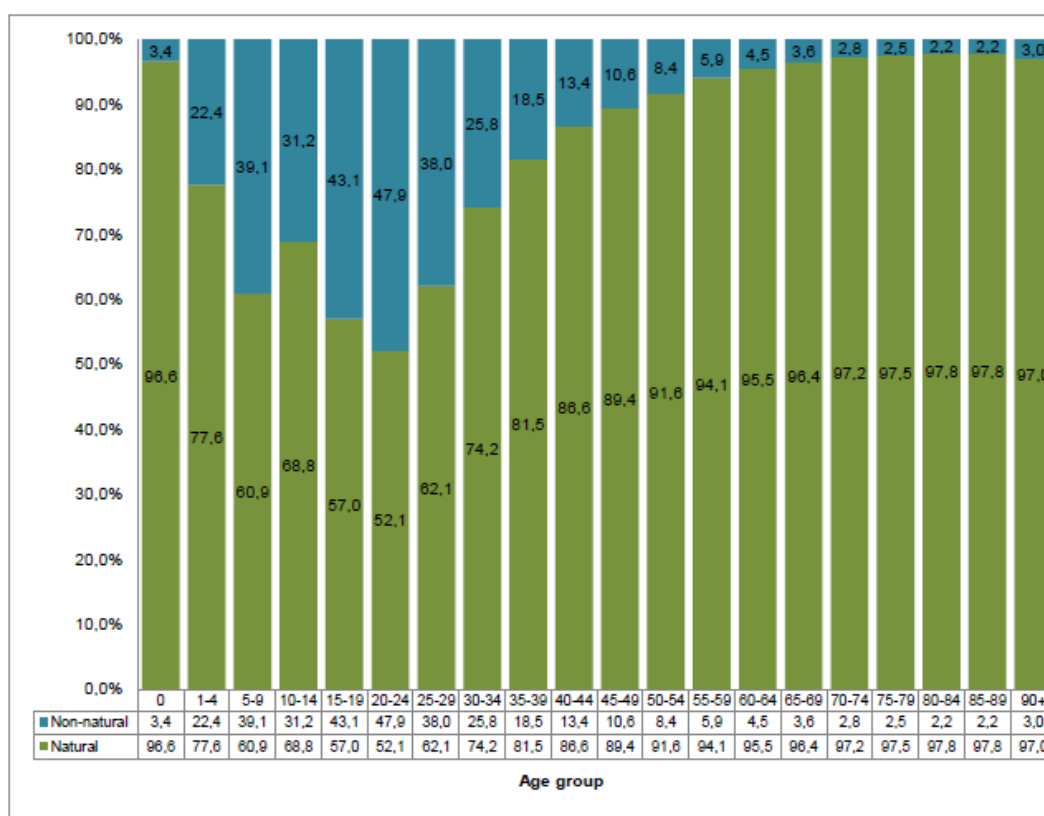


Figure 27: Percentage distribution of natural and non-natural causes of death by age, 2017

Source: StatsSA

- Over the past five years the proportion of under-5 deaths due to non-natural causes has increased in most provinces.

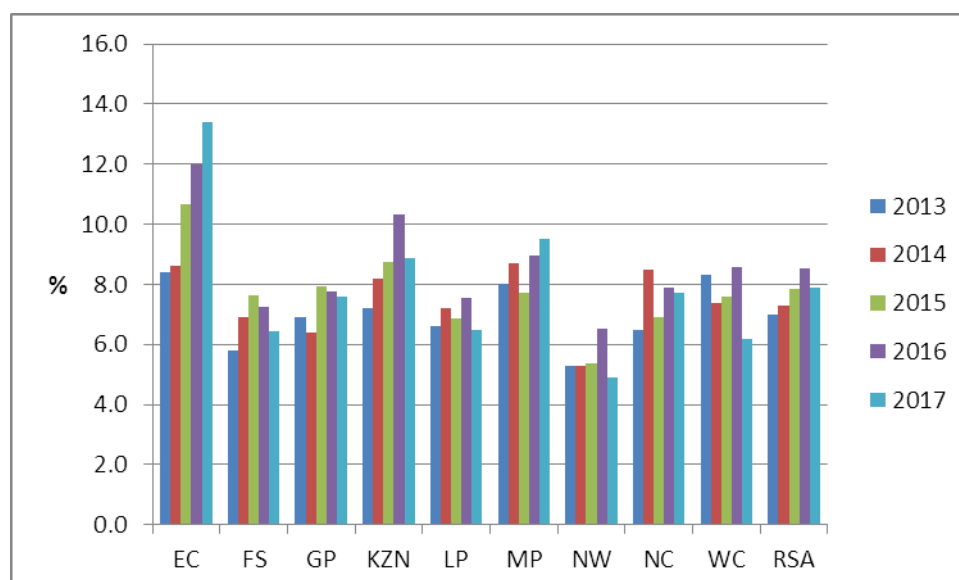


Figure 28: Percentage of under-5 deaths due to non-natural causes by province, 2013 – 2017

Source: StatsSA

- The commonest non-natural causes of death amongst children are road traffic accidents, burns and homicide.

Table 56: Top 3 causes of non-natural death by age

AGE GROUP	RANK 1	RANK 2	RANK 3
< 1 year	Homicide (abuse)		
1 – 4 years	Road traffic accidents	Burns	Homicide
5 – 14 years	Road traffic accidents	Homicide	Burns
15 – 17 years	Homicide	Road traffic accidents	Suicide

Source: S Mathews²²

- Children below 5 years of age:
 - Spend most time with caregivers at home, crèche or ECD centres;
 - Injury risk increases with age;
 - Caregivers play a major role in providing a safe environment and preventing injuries.

RECOMMENDATION

Create a safe home and social environment for children in order to reduce non-natural deaths, with a focus on the prevention of road traffic accidents and burns.

Whilst child abuse and neglect is the commonest cause of non-natural death amongst infants the causes and solutions are consider too complex to be addressed here.

ACTIVITIES

The focus of this recommendation is therefore to promote activities required to protect children from road traffic accidents and burns.

1. Short term / Immediate

- Create awareness of child safety and injury prevention:
 - National and Provincial Departments of Health must implement information and awareness campaigns to:
 - i. Ensure that every expectant woman and mothers of young children receives injury prevention information on the top six childhood injuries – road traffic accidents, burns, drowning, falls, poisoning and suffocation and choking

²² S Mathews, LJ Martin, D Coetzee, C Scott, T Naidoo, Y Brijmohun, K Quarrie. The South African child death review pilot: A multiagency approach to strengthen healthcare and protection for children- S Mathews S Afr Med J 2016;106(9):895-889. DOI:10.7196/SAMJ.2016.v106i9.11234

during the antenatal period, before discharge from maternity care and at every PHC clinic visits.

- ii. Establish partnerships with civil society organisations working with children and injury prevention;
- iii. Reinforce the above messages by including them in MomConnect; the Side-by-Side campaign; social media platforms; and CHW household visits.
- Parents and caregivers need to be aware of and supported in implementing their child care obligations especially with respect to supervision and a safe home environment.
- Prevention of burns:
 - National and provincial departments of health must work with local partners and community based primary health care services to implement campaigns to inform caregivers and their communities about household safety around the use of candles, hot liquids (water and food), surface heat (hotplates and heaters), open flames, sun protection and chemical burns.
- Road safety:
 - The health services must:
 - i. Inform new and expectant parents of the legal requirement for every child under the age of three years to be transported in an appropriate car seat;
 - ii. Refer parents who own a car, but cannot afford to purchase a care seat to the Road Accident Fund for assistance in accessing one;
 - iii. Liaise with provincial departments of community safety and liaison to work with local communities to establish appropriate interventions, e.g. “walking buses” to escort young children to and from school.

2. Medium term / Deferred

- The National Department of Health must:
 - Ensure that child safety and injury prevention is integrated into a comprehensive plan for child health and development;
 - Liaise with allied government departments (Department of Social Development; Department of Community Safety and Liaison; Department of Transport, Department of Basic Education) and civil society bodies to facilitate the establishment of a multi-sectoral child safety and injury prevention policy and plan of action;
 - Undertake a child safety awareness campaign targeting decision makers at national , provincial and local level;

- Lobby local municipalities to institute routine monitoring and disconnection of illegal electricity connections;
- Lobby the Department of Transport to ensure the enforcement of road traffic laws, notably the use of child restraints and speed limits, especially around schools and ECD centres.
- Provincial Departments of Health develop and implement a home safety assessment tool for use by CHWs during routine home visits.

RECOMMENDATION FOUR: STRENGTHEN CIVIL REGISTRATION SYSTEMS FOR BIRTHS AND DEATHS IN ORDER TO REDUCE UNREPORTED CHILD DEATHS.

RATIONALE

- There are a variety of source for information on child mortality including routine datasets (vital registration, DHIS and Child PIP) and survey data (Demographic and Health Survey, census and community surveys).
- Vital registration data reflects deaths in- and outside the health sector including both the public and private services and is used as the source for official estimates of child mortality in the country.
- There are wide discrepancies between the various data sources suggesting underreporting of child deaths in the vital registration database.

KEY FINDINGS

- Comparisons of child deaths reported through vital registration and community based surveys suggest underreporting through the vital registration system, especially in the more rural provinces.

Table 57: Comparison of reported under-5 deaths – Vital registration (VR) vs. Census 2011 and Community survey (CS) 2015

PROVINCE	VR 2011	CENSUS 2011	CENSUS/VR		VR 2015	CS 2015	CS /VR
EC	3 687	7 759	2.10		3 240	4 760	1.47
FS	3 754	4 015	1.07		2 356	2 361	1.00
GP	8 330	8 591	1.03		7 348	7 909	1.08
KZN	7 194	14 842	2.06		5 372	8 568	1.60
LP	4 204	5 405	1.26		4 426	5 329	1.20
MP	2 976	5 223	1.75		2 597	3 776	1.45
NW	3 830	4 774	1.25		3 171	4 559	1.44
NC	1 222	1 239	1.01		1 068	1 059	0.99
WC	2 462	1 713	0.70		2 319	1 859	0.80
RSA	37 908	54 250	1.43		31 938	40 180	1.26

Source: StatsSA

- Many deaths in public sector hospitals are not reflected in the vital registration dataset.

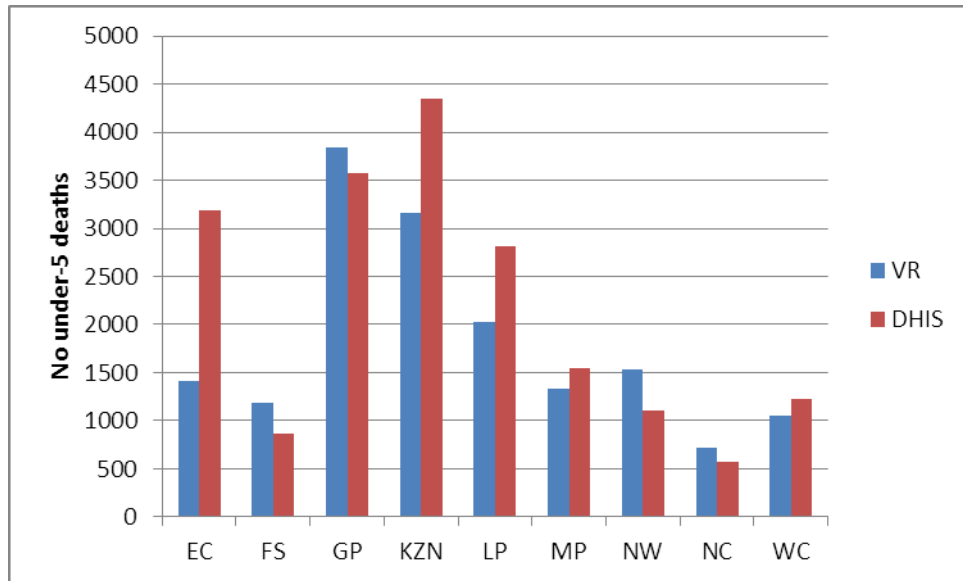


Figure 29: In-hospital under-5 deaths – Vital Registration vs DHIS

Source: StasSA & DHIS 2105

- Underreporting appears to be greatest in neonatal period although in vital registration some neonatal deaths have been recorded as infant deaths.

Table 58: Comparison of under-5 deaths by age and data source

AGE	DHIS		VITAL REGISTRATION	
	N ^o	%	N ^o	%
0 – 28 days	11 979	62.3	7 512	46.2
29 days – 11 months	3 018	15.7	5 673	34.9
1 – 4 years	4 238	22.0	3 087	19.0

Source: DHIS & StatsSA 2015

- Many hospital based DHA offices are non-functional and a review of services in KZN showed that only 64.3% of public sector hospitals host a DHA office, two-thirds of these providing a daily service, but this is often limited to a few hours a day.

RECOMMENDATION

Strengthen civil registration systems for birth s and deaths in order to reduce unreported child deaths.

ACTIVITIES

The following activities are required for the implementation of the above recommendation:

1. Improve the registration of births

- Establish DHA offices in all health facilities;
- Provide information to all pregnant women on documents required for birth registration;
- Establish protocols to ensure the registration of newborn babies admitted to neonatal nurseries and ICUs at admission;
- Explore systems for the registration of babies born to foreign nationals.

2. Improve the registration of deaths

- Expand the role of hospital based DHA offices to include the registration of deaths;
- Establish systems to allow the simultaneous registration of births and deaths when a baby has died without going home;
- Explore the feasibility of establishing systems for the registration of deaths through community structures.

RECOMMENDATION FIVE: EMPOWER HOUSEHOLDS AND STRENGTHEN COMMUNITY SERVICES IN ORDER TO ALLEVIATE BARRIERS TO EARLY ENTRY INTO THE HEALTH SERVICE.

RATIONALE

- The pathway to child survival entails three steps:
 - Recognising the severity of childhood illness;
 - Reaching an appropriate source of care;
 - Obtaining adequate and appropriate treatment.
- There are multiple barriers within each step in the pathway to survival.
- Audits of children who have died in the public health sector reveal that more than half of the identified barriers in the pathway to survival occur before arrival of the child at a hospital.

KEY FINDINGS

- At a national level Child PIP audits identify 3,1 modifiable factors in every individual child death. A third (32.3%) of these occur in the home and over half (51.1%) occur before arrival at a hospital.
- The commonest modifiable factors have not changed over the past three years and include:
 - In the home:
 - Delayed entry into the health service;

- Failure to recognise the severity of the child's illness;
- Inadequate nutrition in the home; and
- Use of traditional remedies with a negative impact on the child.
- At the PHC clinic or in transit to the hospital:
 - Missing danger signs;
 - Inadequate assessment of the severity of the child's condition;
 - Failure to identify poor growth; and
 - Delayed referral for growth failure.
- In terms of the pathway to survival:²³
 - 64% - 74% of children who died at home sought care during their final illness;
 - However 33% - 66% did not seek care outside the home; and
 - Of children who died at home and sought care at their local PHC clinic 20% - 80% left the clinic alive without being referred to a higher level of care.

RECOMMENDATION

Households must be empowered and community services strengthened so that they are able to effectively implement the pathway to child survival.

ACTIVITIES

To achieve this recommendation two broad areas of activity are required:

1. Empower and support households

- Support breastfeeding and promote good infant and young child nutrition;
- Strengthen the education of mothers and caregivers on the danger signs of childhood illness that are included in the RtHB through CHWs, MomConnect and during each encounter with the health service;
- Ensure that mothers and caregivers are aware of local pathways to survival and appropriate sources of care;
- Ensure that on discharge from any health facility mothers and caregivers receive an appropriate discharge plan including advice on when to return for routine or emergency review.

²³ Alyssa B Sharkey, Mickey Chopra, Debra Jackson, Peter J Winch, and Cynthia S Minkovitz. Pathways of care-seeking during fatal infant illnesses in under resourced South African settings. . *Transactions of The Royal Society of Tropical Medicine and Hygiene*. 2012 February ; 106(2): 110–116. doi:10.1016/j.trstmh.2011.10.008 Investigating under-5 deaths: place of death and care-seeking behaviour. Jessica Price, University of Oxford

2. District management teams must strengthen linkages within the community

- Ensure that referral pathways and linkages between levels of care within the health service are formulated, communicated and implemented;
- Establish multi-sectoral forums, that include the Departments of Social Development, Agriculture, Labour and Public Works, to ensure that the most vulnerable households in their districts are able to attain household food security;
- Ensure that traditional health practitioners are included as part of the child health team and that they receive appropriate training with regard to danger signs and referral pathways;

RECOMMENDATION SIX: STRENGTHEN THE CAPACITY OF HOSPITALS TO IDENTIFY AND CARE FOR ACUTELY SICK CHILDREN.

RATIONALE

- The final step in the pathway to child survival entails obtaining adequate and appropriate treatment.
- This requires access to a functioning health service and capacitated hospitals.
- Over half of reported under-5 deaths occur within the health service with 92,6% of these occurring in hospitals;
- Audits of these deaths have established that almost half (48,9%) of all identified modifiable factors occur within our hospitals.
- Strengthening hospital based services is necessary to achieve further reduction in child mortality.

KEY FINDINGS

- Of the 3,1 modifiable factors identified in every individual child death 2,1 are due to clinical personnel or administrators; and
- A quarter (26,4%) occur in our children's wards and a fifth (22,5%) in hospital A&E departments.
- Over the past three years the commonest modifiable factors:
 - In A&E departments have been:
 - Inadequate notes on clinical care;
 - Inadequate response to new danger signs;
 - Inadequate investigations in the A&E department.
 - In children's wards have been:
 - Lack of high care or ICU facilities for children;

- Failure to identify new dangers signs while in the ward;
- Inadequate response to new danger signs;
- The dominant theme is the inadequate capacity of hospitals to identify or care for acutely sick children with poor assessment and care on arrival, failure to recognise any deterioration once in hospital and limited access to inpatient high care and ICU facilities for children.

RECOMMENDATION

Strengthen the capacity of hospitals to identify and care for acutely sick children.

ACTIVITIES

In order to improve the capacity of hospitals the following activities are proposed:

1. Training of health professionals:

- The National Department of Health must engage with academic paediatric departments and the Health Professions Council of South Africa to ensure that all medical students and interns achieve exit competencies in priority programmes for paediatric emergencies such as Emergency Triage Assessment and Treatment (ETAT) and paediatric resuscitation.
- Provincial Departments of Health must ensure the ongoing in-service training of all clinical staff, especially those working in A&E departments and children's wards, including sessional staff, in ETAT and paediatric resuscitation.

2. Resources for acutely sick children:

- Provincial Departments of Health must develop and implement a provincial plan for paediatric critical care services including admission and discharge criteria and clear referral pathways.
- Every children's ward must include a minimum of two functional high care bed. The requirements for a function high care bed include:
 - Placement in line of sight of the nurses station
 - Service points – 6 electrical points, 1 oxygen, 1 suction and 1 medical air outlet.
 - A high care bed, a multi-parameter monitor, 1 infusion pump and 2 syringe pumps.
 - Non-rotating nurses who can be trained in caring for acutely ill children.
 - Clinical protocols and standard treatment guidelines.

3. Clinical practices:

- Every hospital must:
 - Ensure the equitable deployment of clinical staff to children's ward with the:
 - Non-rotation of at least 50% of nursing staff; and
 - The allocation of a dedicated doctor to the children's ward for a 3 – 6 month period.
 - Establish appropriate paediatric triage systems on entry to the hospital;
 - Ensure the use of early warning scoring systems in their children's wards;
 - Ensure that daily wards rounds occur in every children's ward with more frequent review of sicker children.
- Regional and tertiary hospitals must provide outreach support to children's wards at lower levels of care.

RECOMMENDATION SEVEN: ESTABLISH A CLEAR POLICY AND GOVERNANCE FRAMEWORK AND IMPLEMENTATION STRATEGY FOR THE PROVISION OF PHC SERVICES FOR CHILDREN.

RATIONALE

Globally:

- The WHO re-emphasised the need for PHC in 2008 and proposed four key reforms - person-centredness, realising universal health coverage, a 'health in all policies' approach and responsive and accountable leadership.
- In 2018, many countries, including South Africa, renewed their commitment to PHC at Astana, Kazakhstan.

In South Africa:

- Since 1994, there has been a commitment to improving PHC with a focus on PHC infrastructure and access to care with over 3 500 clinics and community health centres and free care at the point of use for all citizens.
- The WHO Integrated Management of Childhood Illness (IMCI) strategy was adopted in 1998.
- PHC has been described as the "heartbeat of the NHI (National Health Insurance)"²⁴ and a PHC re-engineering strategy was introduced in 2012, with the Ideal Clinic initiative following in 2013. Despite these and other initiatives, there is widespread

²⁴ Department of Health. White Paper. National Health Insurance for South Africa: Towards Universal Health Coverage. National Department of Health: Pretoria, 2017.
<https://health.gov.za%2Findex.php%2Fnhl-documents%3Fdownload%3D2257%3Awhite-paper-nhi-2017&usg=AOvVaw100dBLs7PcKHZNi5TupoyC>

discontent with the quality of care offered by the PHC service including concern that the needs of children are not being adequately prioritised or met.

KEY FINDINGS

Organisation

- South African PHC services for children are heterogeneous with respect to availability, nature, conduct, efficiency and quality;
- They have not led to a reduction in hospital admissions due to PHC-sensitive conditions (acute respiratory infection, gastroenteritis and severe acute malnutrition);
- There is no clear policy and governance guidance on how child health care at PHC sites should be provided or on the implementation of IMCI as the mainstay of PHC services for children with resulting idiosyncratic implementation at clinic, district and provincial level, dependent on individual practitioners and facility managers.^{25,26}
- There is limited provision for children with long term health conditions who therefore bypass the PHC clinic and present directly to regional hospitals.
- There is little research on the success or effectiveness of the re-engineering of PHC strategy. Evidence of successes are limited and poorly documented, and any claims of impact are anecdotal. One review concluded that “a re-envisioning of the PHC strategy is required to provide a clearer future vision and for achieving many of the originally envisaged outcomes”.²⁷

Work processes

- A review of IMCI implementation in South Africa identified generic challenges such as human resource constraints, inadequate budgets and limited delivery of the community component as well as specific local challenges including non-deployment of IMCI-trained nurses, poor adherence to IMCI guidelines and inadequate oversight and accountability.²⁸
- The Knowledge Translation Unit at the University of Cape Town developed The Practical Approach to Care Kit (PACK) Child guide to address the limitations of IMCI, using a clinical decision support tool, training package and systems strengthening

²⁵ Pandya H, Slemming W, Saloojee H. Health system factors affecting implementation of Integrated Management of Childhood Illness (IMCI): qualitative insights from a South African province. *Health Policy Plan* 2018;33:171-182.

²⁶ Horwood C, Vermaak K, Rollins N, et al. . An evaluation of the quality of IMCI assessments among IMCI trained health workers in South Africa. *PLoS One* 2009;4:e5937 10.1371/journal.pone.0005937

²⁷ Saloojee H. Re-envisioning reengineered primary health care in South Africa. *Transactions of the Colleges of Medicine of South Africa* (2020, in press).

²⁸ Fick C. Twenty years of IMCI implementation in South Africa: accelerating impact for the next decade. *South African health review*. 20th edn, 2017.

intervention.²⁹ Evaluation of the pilot project concluded that optimising success of the intervention required a review of priorities for paediatric care delivery focusing on enhanced skills, knowledge and deployment of clinical staff to better address paediatric acute illnesses, long-term health conditions and complex psychosocial issues.³⁰

- In a 2014 - 15 assessment of PHC services using the Primary Care Assessment Tool (PCAT) clinic managers and providers were generally much more positive about the performance of PHC services compared to patients. Patients rated first contact accessibility, ongoing care and community orientation as the poorest performing elements (<50% scoring as 'acceptable to good'); first contact utilisation, informational coordination and family-centredness as weaker elements (<66% scoring as 'acceptable to good'); and comprehensiveness, coordination, cultural competency and availability of the PHC team as stronger aspects of primary care (≥66% scoring as 'acceptable or good').³¹
- Furthermore PHC child preventive and promotive services provided by health professionals are perceived to have a biomedical focus; to miss person-centred care; with limited opportunity for caregiver participation and prioritises the completion of documentation.²⁹

Facility infrastructure

- The Ideal Clinic project, with 32 indicators focussing on structural rather than process elements of care, is designed to drive quality improvement.³² Results of a national audit of PHC services in 2016 found that only 9% of clinics were ideal although compliance with the indicator 'clinic space accommodates all services and staff', which is required for implementation of the Integrated Clinical Services Management model, increased from 13% in 2015 to 28% in 2016.³³

²⁹ Murdoch J, Curran R, Cornick R, et al. Addressing the quality and scope of paediatric primary care in South Africa: evaluating contextual impacts of the introduction of the Practical Approach to Care Kit for children (PACK Child). Murdoch et al. BMC Health Services Research (2020) 20:479

³⁰ Bresicka G, von Pressentin KB, Mash R. Evaluating the performance of South African primary care: a cross-sectional descriptive survey. South African Family Practice 2019; 61(3):109–116.

³¹ Bresicka G, von Pressentin KB, Mash R. Evaluating the performance of South African primary care: a cross-sectional descriptive survey. South African Family Practice 2019; 61(3):109–116.

³² Health SSA response to HIV and Ideal Clinic project. 2015.

<http://www.sarrahsouthafrica.org/HOMESUPPORTFORHIVANDHEALTH/EQUALACCESSTOHIVANDHEALTHSERVICES/NATIONALHEALTHINSURANCE/IDEALCLINICSINITIATIVE.aspx>

³³ Hunter J, Chandran T, Asmall S, et al. The Ideal Clinic in South Africa: progress and challenges in implementation. In: Padarath A, Barron P, editor. South African Health Review, 20th edn Cape Town: Health System Trust; 2017. p. 111–124.

RECOMMENDATION

The National Department of Health must establish a clear policy and governance framework and implementation strategy for the provision of PHC services for children.

ACTIVITIES

The following three activities are required to establish such a framework and implementation strategy:

1. **Establish a national working group on optimising PHC delivery for children.** This group should offer guidance on how PHC services for children can be optimised and progressively escalated to address existing deficiencies and better meet the demands of NHI.
2. **Undertake a national audit of PHC service delivery for children.** The audit must identify the nature of sick and well child services (what services are offered); access (when services are available); service provider (who provides the service – cadre, skills and qualifications); supervision and support mechanisms; clinical records; support systems (IT and internet connectivity) etc.
3. **Incorporate child focussed norms and standards into the Ideal Clinic project.** Child specific infrastructural issues in the Ideal Clinical project must be identified so that norms and standards applicable to children can be established and adopted into the initiative.

SUMMARY

Recommendation One: Promote the prevention, early identification and comprehensive management of the stabilization phase of children with severe acute malnutrition.

1. Ensure community based nutrition screening of all children under 5 years of age by CHWs, CCGs and WBOTs;
2. Capacitate frontline staff in the initial management of children with SAM;
3. Implement quality improvement protocols for the integrated management of SAM;
4. Collaborate with other government departments to address the social determinants of health.

Recommendation Two: Strengthen the capacity of community and primary health care services to address common childhood illnesses.

1. Promote the early identification of common childhood illnesses at home, in the community and by primary care and traditional health practitioners;
2. Improve the case management of pneumonia, diarrhoea and the sick newborn at all levels of care;
3. Create a responsive and accessible health service with linkages between levels of care, improved access to care and a functional referral pathway.

Recommendation Three: Create a safe home and social environment for children in order to reduce non-natural deaths, with a focus on the prevention of road traffic accidents and burns.

1. Create awareness of child safety and injury prevention;
2. Implement programmes to promote household safety with respect to burn risks – the use of candles, hot liquids, surface heat and open flames;
3. Work with the Department of Transport to enforce the use of child restraints, speed control and the introduction of “walking buses”.
4. Incorporate child safety into a comprehensive national child health and development plan including the establishment of inter-sectoral forums for engagement with other state departments;
5. Incorporate home safety checks into the household visits by CHWs.

Recommendation Four: Strengthen civil registration systems for births and deaths in order to reduce unreported child deaths.

1. Improve the registration of births by establishing functional DHA offices in every hospital;
2. Improve the registration of deaths by expanding the function of hospital based DHA offices and exploring the feasibility of community based registration systems.

Recommendation Five: Empower households and strengthen community services in order to alleviate barriers to early entry into the health service.

1. Empower and support households.
2. Strengthen linkages within the community.

Recommendation Six: Strengthen the capacity of hospitals to identify and care for acutely sick children.

1. Improve undergraduate and in-service training of health professions in childhood emergencies;

2. Establish provincial plans for paediatric critical care services including a minimum of 2 high care beds in every children's ward;
3. Hospitals must implement the non-rotation of staff and enforce the use of triage, early warning scoring systems and daily ward rounds in every children's ward.

Recommendation Seven: Establish a clear policy and governance framework and implementation strategy for the provision of PHC services for children.

1. Establish a national working group on optimising PHC delivery for children.
2. Undertake a national audit of PHC service delivery for children.
3. Incorporate child focussed norms and standards into the Ideal Clinic project.

APPENDIX 1: CHILD MORBIDITY & MORTALITY DATA: 2013 -17

DATA

The following data is presented to reflect the pattern of childhood morbidity and mortality in South Africa for the period 2016 - 2019:

1. National
2. Provincial
3. District

DATA SOURCES

The above data has been extracted from the following sources:

StatsSA	Reported live births
	Number of deaths
	Age at death
	Place of death in hospital, A&E, nursing home, home, other
	Cause of death

Infant and under-5 mortality rates were calculated using the StatsSA data.

Child PIP	Relationship of HIV and malnutrition with deaths
	Deaths within 24 hours of admission to hospital
	Modifiable factors

DHIS	In-hospital case fatality rates (CFR)
	Level of service where in-hospital deaths occur

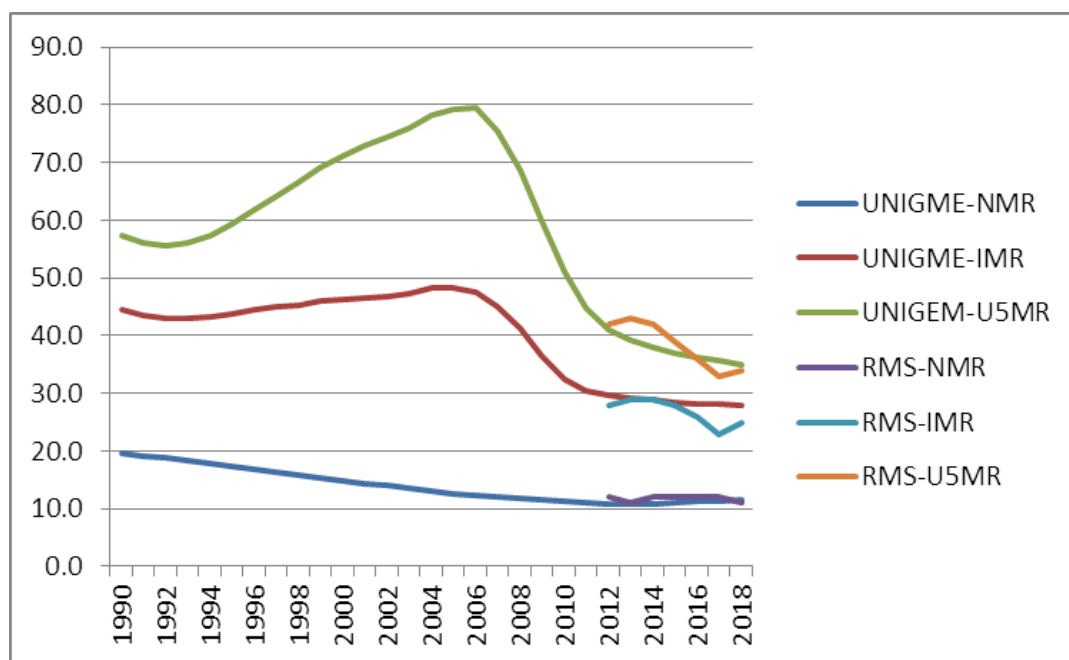


Figure 30: Child mortality rates in South Africa, 1990 – 2017

Source: UNIGME, Dorrington, et al³⁴

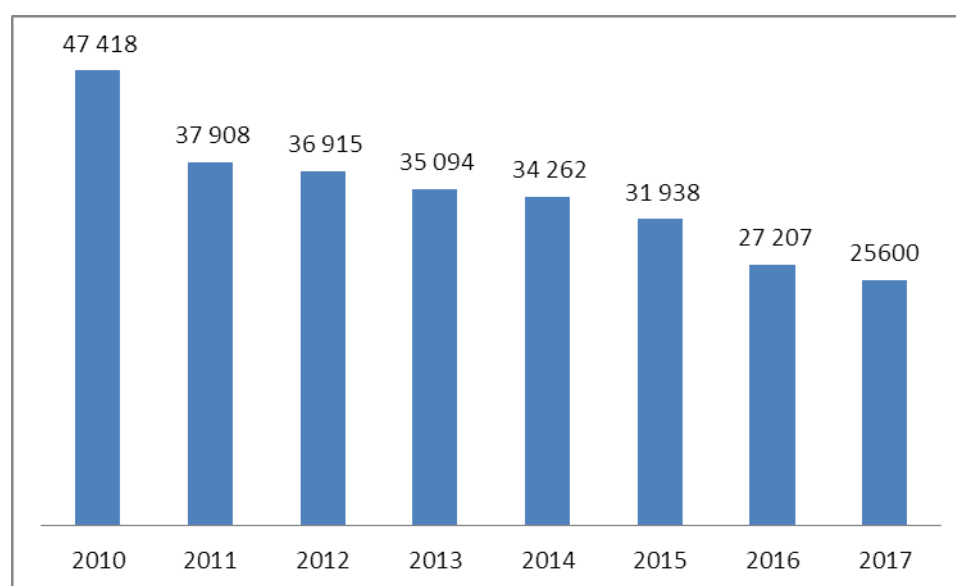


Figure 31: Number of under-5 deaths in South Africa, 2010 - 2017

Source: StatsSA

³⁴ Dorrington RE, Bradshaw D, Laubscher R, Nannan N (2020). Rapid mortality surveillance report 2018. Cape Town: South African Medical Research Council. ISBN: 978-1-928340-44-7.

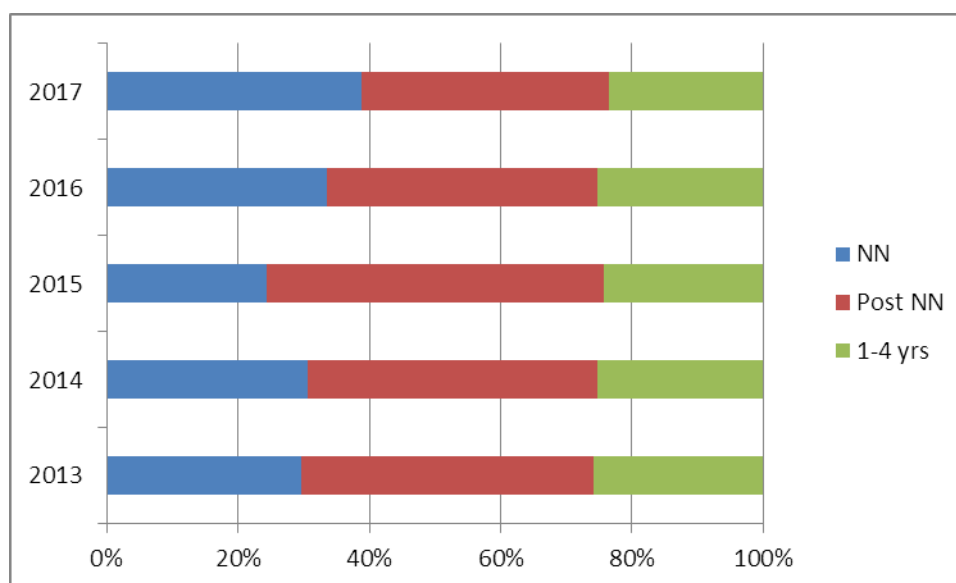


Figure 32: Proportion of under-5 deaths by age, 2013 - 2017

Source: StatsSA

Table 59: Level in health service where deaths occur by age, RSA: 2017

Age	DH		RH		TH		CH		Total	
	N ^o	%	N ^o	%	N ^o	%	N ^o	%	N ^o	%
early NN	3 180	35.1	3 217	35.5	1 408	15.5	1 259	13.9	9 064	100.0
late NN	359	18.5	760	39.1	279	14.3	547	28.1	1 945	100.0
1-11 mths	939	33.9	808	29.2	439	15.9	581	21.0	2 767	100.0
1-4 yrs	644	30.8	607	29.1	356	17.0	482	23.1	2 089	100.0
<5 years	5 122	32.3	5 392	34.0	2 482	15.6	2 869	18.1	15 865	100.0

Source: DHIS

Table 60: Level in health service where deaths occur, by province: 2017

Province	DH		RH		TH		CH		Total
	No	%	No	%	No	%	No	%	No
EC	818	39.5	724	35.0	148	7.1	380	18.4	2 070
FS	187	21.0	443	49.8	145	16.3	114	12.8	889
GP	306	7.5	1 642	40.1	451	11.0	1 692	41.4	4 091
KZN	1 297	40.4	1 461	45.5	269	8.4	185	5.8	3 212
LP	1 112	53.5	504	24.3	461	22.2	0	0.0	2 077
MP	704	56.4	181	14.5	364	29.1	0	0.0	1 249
NC	135	40.2	29	8.6	172	51.2	0	0.0	336
NW	302	39.7	127	16.7	332	43.6	0	0.0	761
WC	261	22.1	281	23.8	140	11.9	498	42.2	1 180
RSA	5 122	32.3	5 392	34.0	2 482	15.6	2 869	18.1	15 865

Source: DHIS

Table 61: Cause of death by age group, RSA: 2017

BROAD CAUSE	ICD-10 CODE	UNDER 1 YEAR		1 - 4 YEARS		UNDER 5 YEARS	
		N ^o	%	N ^o	%	N ^o	%
Intestinal Infections	A00-A09	1 186	6.1	546	9.0	1 732	6.8
Tuberculosis	A15-A19	116	0.6	199	3.3	315	1.2
Other bacterial diseases	A30-A49	332	1.7	85	1.4	417	1.6
HIV disease	B20-B24	140	0.7	103	1.7	243	0.9
Other viral diseases	B25-B34	178	0.9	104	1.7	282	1.1
Malnutrition	E40-E46	462	2.4	366	6.0	828	3.2
Influenza & pneumonia	J09-J18	1 518	7.8	555	9.2	2 073	8.1
Perinatal conditions	P00-P96	8 579	43.9	9	0.1	8 588	33.5
Congenital Disorders	Q00-Q99	1 753	9.0	209	3.5	1 962	7.7
Ill defined	R00-R99	2 687	13.7	1221	20.2	3 908	15.3
Non-natural	V01-Y98	670	3.4	1354	22.4	2 024	7.9
Other		1 928	9.9	1300	21.5	3 228	12.6

Source: StatsSA

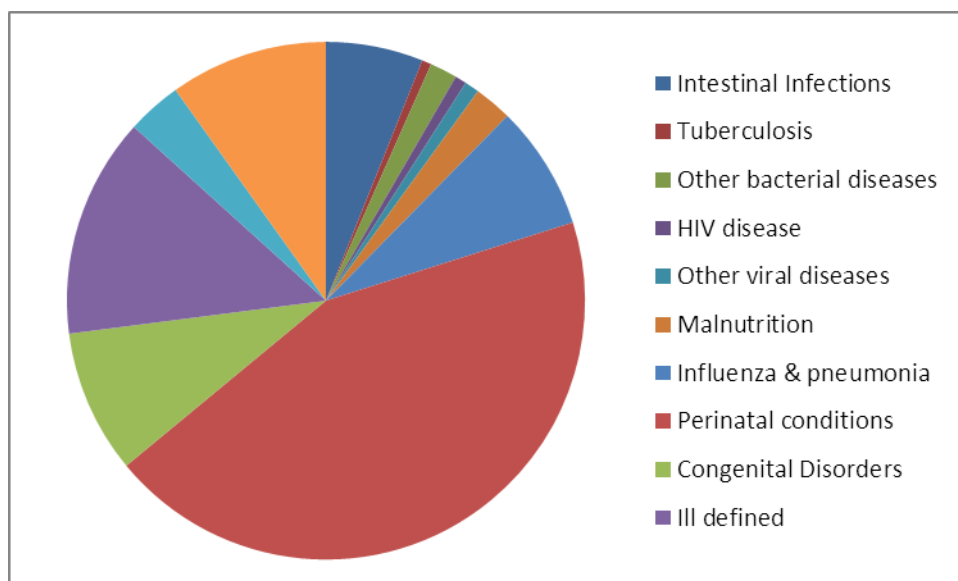


Figure 33: Under 1 year cause of death, RSA: 2017
Source: StatsSA

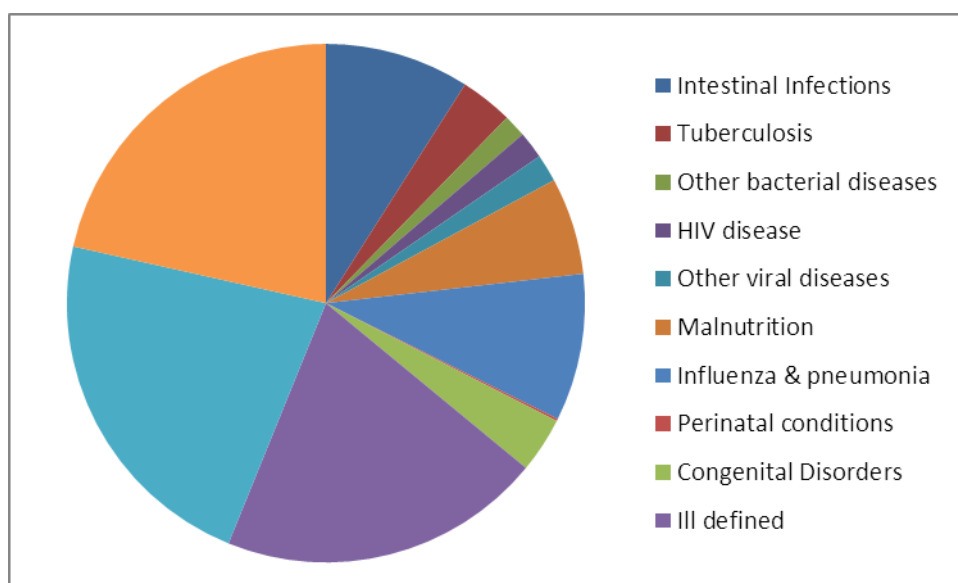


Figure 34: 1 – 4 years cause of death, RSA: 2017
Source: StatsSA

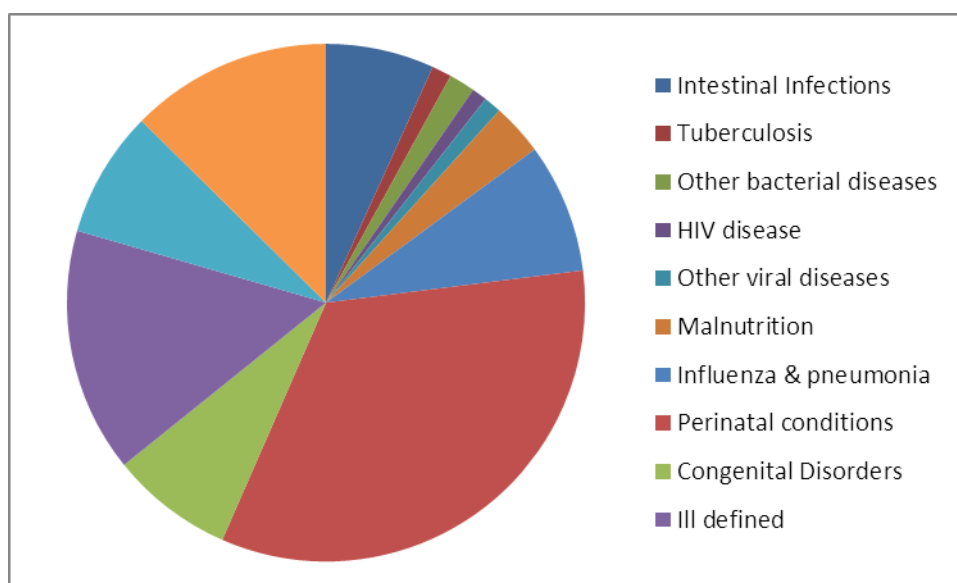


Figure 35: Under 5 years cause of death, RSA: 2017

Source: StatsSA

Table 62: Trend in cause of death by age group, RSA: 2017

CAUSE OF DEATH	UNDER 1 YEAR					1 - 4 YEARS					UNDER 5 YEARS				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Gastroenteritis	13.8	12.9	9.5	6.7	6.1	17.0	17.2	12.3	9.2	9.0	14.6	14.0	10.1	7.3	6.8
Tuberculosis	0.9	0.8	0.7	0.6	0.6	3.2	3.1	2.5	2.5	3.3	1.5	1.4	1.1	1.1	1.2
Other bacterial	1.6	0.0	0.0	1.8	1.7	1.4	1.5	0.1	1.4	1.4	1.6	1.7	0.0	1.7	1.6
HIV	1.6	1.1	1.0	0.8	0.7	2.0	2.2	1.7	1.5	1.7	1.7	1.4	1.2	1.0	0.9
Other viral	1.8	1.5	1.4	1.2	0.9	2.1	1.9	2.3	1.9	1.7	1.9	1.6	1.7	1.4	1.1
Malnutrition	2.7	3.4	3.4	3.2	2.4	6.5	8.6	8.4	6.4	6.0	3.7	4.7	4.6	4.0	3.2
Pneumonia	9.0	9.0	10.2	8.3	7.8	9.8	9.1	10.3	9.3	9.2	9.2	9.0	10.2	8.6	8.1
Perinatal	25.3	26.2	27.8	40.0	43.9	0.0	0.0	0.0	0.0	0.0	22.6	23.4	25.6	29.9	33.5
Congenital	5.0	6.3	6.3	8.5	9.0	1.7	2.0	2.6	3.0	3.5	4.2	4.9	5.4	7.1	7.7
Ill defined	13.5	13.0	13.5	13.8	13.7	18.9	17.8	18.5	19.9	20.2	14.9	14.2	14.7	15.4	15.3
Non-natural	3.3	3.5	3.9	4.1	3.4	17.4	18.5	20.2	21.4	22.4	7.0	7.3	7.9	8.5	7.9
Other	21.5	22.3	22.2	21.1	9.9	20.0	18.1	21.1	23.3	21.5	17.1	16.4	17.4	13.9	12.6

Source: StatsSA

Table 63: National mortality data: 2013 - 2017

	2013	2014	2015	2016	2017
NMR	10.7	11.9	8.5	9.0	10.7
IMR	26.8	28.9	26.3	19.9	21.1
U5MR	36.2	38.7	34.7	26.7	27.6
% In-hospital	47.0	48.3	50.9	48.8	53.8
% < 24 hrs	33.6	31.9	32.8	34.2	34.8
% SAM	31.2	31.0	30.9	29.5	25.6
% HIV	39.1	34.8	36.9	35.9	32.4
GE CFR	4.0	3.3	2.2	2.0	2.1
ARI CFR	3.7	2.9	2.3	2.1	2.4
SAM CFR	12.0	11.6	8.9	7.2	5.6

Source: StatsSA & Child PIP

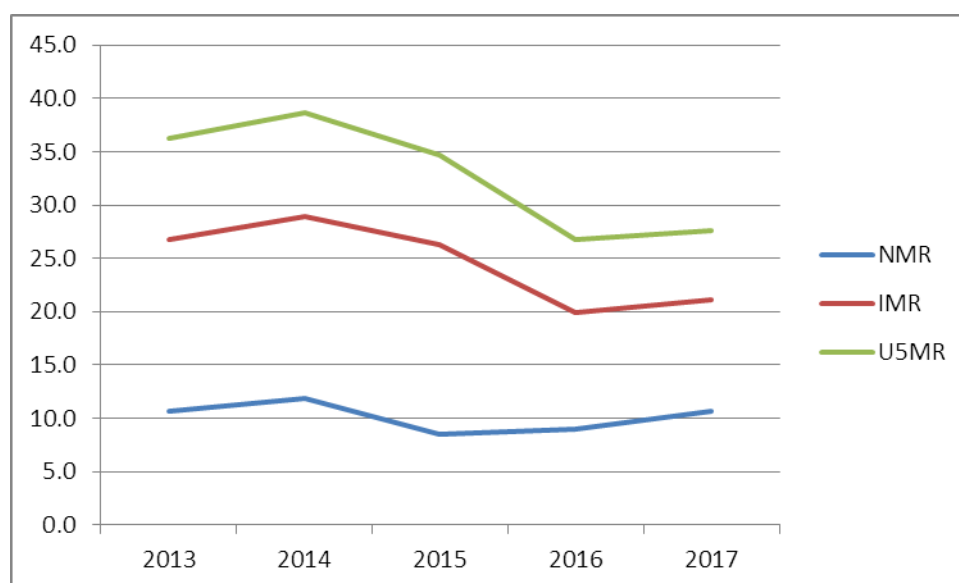


Figure 36: Trend in national mortality rates: 2013 - 2017

Source: StatsSA

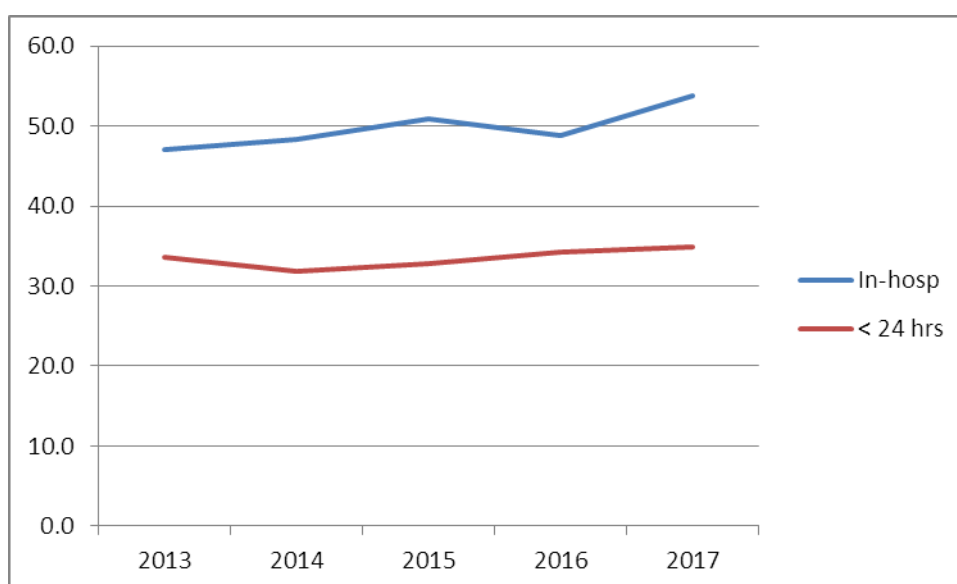


Figure 37: Trend in percent of national under-5 deaths occurring in the health sector or within 24 hours of admission: 2013 - 2017

Source: StatsSA & Child PIP

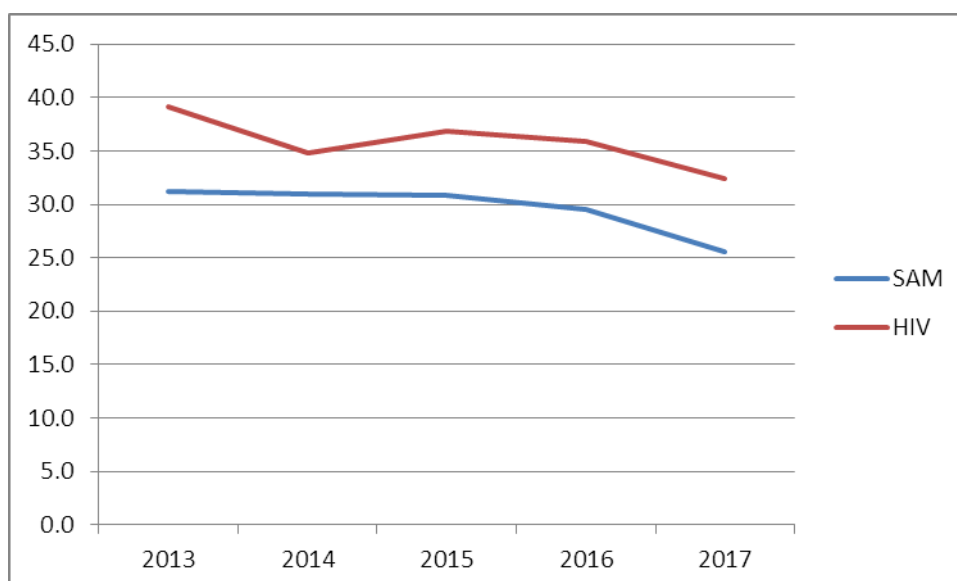


Figure 38: Trend in percent of national deaths associated with severe acute malnutrition or HIV: 2013 - 2017

Source: Child PIP

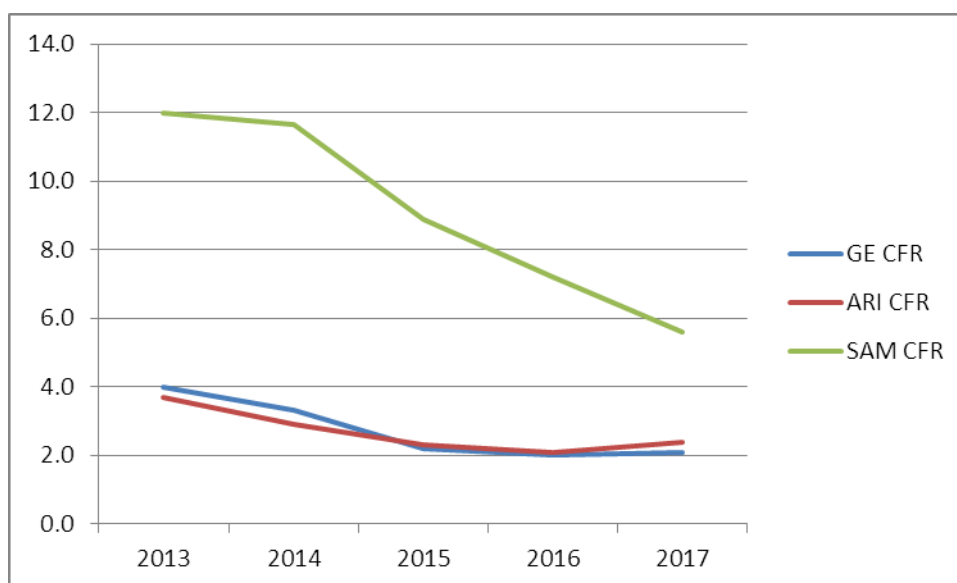


Figure 39: Trend in national case fatality rates: 2013 - 2017

Source: Child PIP

Table 64: Top three national modifiable factors by level of care: 2016 – 2018

LEVEL	MODIFIABLE FACTOR	2016	2017	2018
Ward	New danger signs inadequately identified while in ward	2	2	
	Inadequate response to new danger signs	3	3	2
	Lack of High Care / ICU facilities for children	1	1	1
	Inadequate investigations in ward			3
A&E/OPD	Inadequate response to new danger signs	1		2
	Inadequate history taken at A&E	2	1	
	Inadequate investigations (blood, x-ray, other) at A&E	3	3	3
	Inadequate notes on clinical care at A&E		2	1
Referring facility	Inadequate referral letter from referring facility	3	3	3
	Severity of child's condition incorrectly assessed at referring facility	1	1	2
	No or delayed referral to higher level	2	2	1
Clinic	Inadequate notes on clinical care (assess, classify, treat) at clinic	1	2	
	Danger signs missed at clinic/OPD	2	1	1
	Child's growth problem inadequately identified or classified	3	3	2
	Inadequate response to growth faltering or failure, at clinic/OPD			3
Home	Caregiver delayed seeking care	1	1	1
	Caregiver did not recognise danger signs/severity of illness	2	2	2
	Child not given adequate (quality and/or quantity) food at home	3		
	'Traditional remedy' with negative effect on child		3	3

Source: Child PIP

Table 65: Mortality data by province, 2017

PROVINCE	BIRTHS	NN DEATHS	U1 DEATHS	U5 DEATHS	% NN	% U1	NMR	IMR	U5MR	% IN HEALTH	% SAM	% HIV	% <24HRS	GE CFR	ARI CFR	SAM CFR
EC	105 589	527	1517	2311	22.8	65.6	5.0	14.4	21.9	21.9	24.7	34.7	40.2	3.7	3.0	10.2
FS	46 563	848	1608	1985	42.7	81.0	18.2	34.5	42.6	22.7	30.9	34.4	36.7	2.8	3.2	9.6
GP	206 286	2576	4732	5949	43.3	79.5	12.5	22.9	28.8	33.7	17.1	30.4	28.9	1.7	1.5	6.5
KZN	193 873	1637	3004	3972	41.2	75.6	8.4	15.5	20.5	35.5	25.7	35.3	35.7	2.0	1.8	7.4
LP	121 225	1051	2324	3314	31.7	70.1	8.7	19.2	27.3	27.6	32.1	35.2	40.3	2.1	2.9	8.3
MP	77 270	668	1315	1794	37.2	73.3	8.6	17.0	23.2	33.2	26.1	35.8	36.0	1.5	3.4	8.4
NC	23 455	339	694	881	38.5	78.8	14.5	29.6	37.6	37.7	33.2	27.5	37.1	3.8	1.6	5.1
NW	56 104	992	1986	2523	39.3	78.7	17.7	35.4	45.0	52.4	37.3	32.2	33.9	3.2	2.5	10.6
WC	96 045	821	1513	1814	45.3	83.4	8.5	15.8	18.9	46.3	12.4	16.1	25.8	0.3	0.4	0.6
RSA	926 464	9931	19549	25600	38.8	76.4	10.7	21.1	27.6	53.8	25.6	32.4	34.8	2.1	2.4	5.6

Source: StatsSA & Child PIP

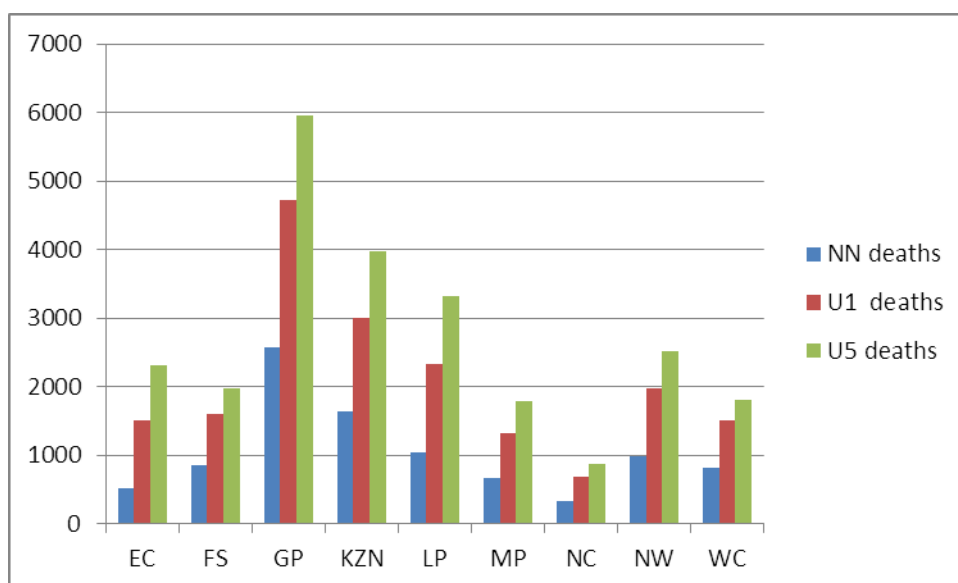


Figure 40: Trend in under-5 deaths by age group, by province: 2013 - 2017
Source: StatsSA

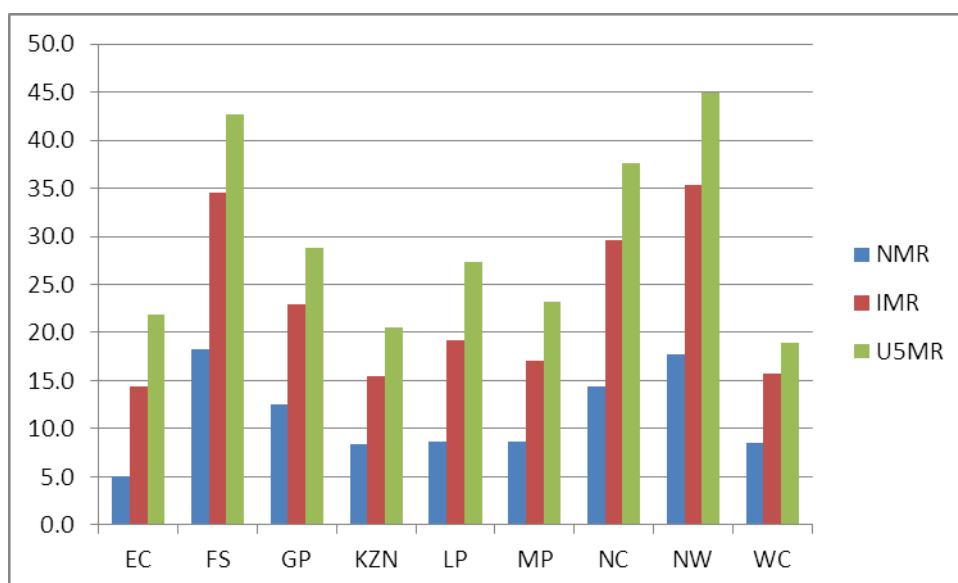


Figure 41: Trend in mortality rates, by province: 2013 - 2017
Source: StatsSA

Table 66: Trend in infant and under-5 mortality rates, by province: 2013 - 2017

PROVINCE	IMR					U5MR				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	18.6	23.3	20.1	16.9	14.4	27.6	34.3	29.7	25.4	21.9
FS	43.4	43.0	39.0	31.5	34.5	56.9	55.3	49.6	46.5	42.6
GP	27.8	31.1	30.3	26.2	22.9	35.0	39.2	38.2	33.2	28.8
KZN	23.4	24.8	22.0	17.2	15.5	31.3	32.7	29.2	23.5	20.5
LP	24.5	27.9	25.9	20.9	19.2	37.3	40.4	36.3	30.3	27.3
MP	23.9	27.6	25.9	22.2	17.0	33.9	37.6	35.2	30.0	23.2
NC	38.6	36.2	33.2	35.5	29.6	50.4	48.2	43.9	46.0	37.6
NW	46.5	50.9	42.9	40.2	35.4	62.4	70.6	55.3	53.6	45.0
WC	19.0	19.2	19.8	16.8	15.8	23.5	23.8	24.0	20.7	18.9
RSA	26.8	28.9	26.3	19.9	21.1	36.2	38.7	34.7	26.7	27.6

Source: StatsSA

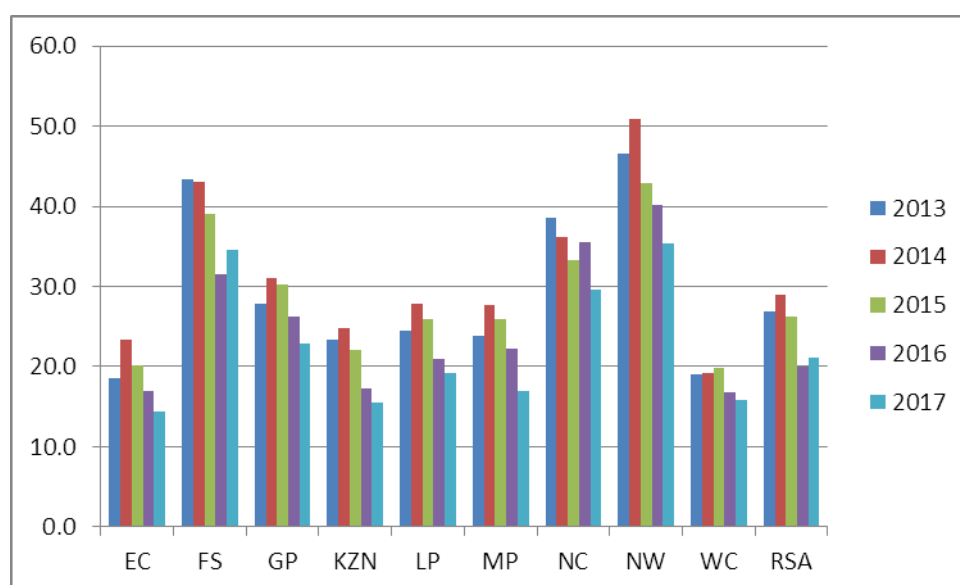


Figure 42: Trend in infant mortality rate, by province: 2013 - 2017

Source: StatsSA

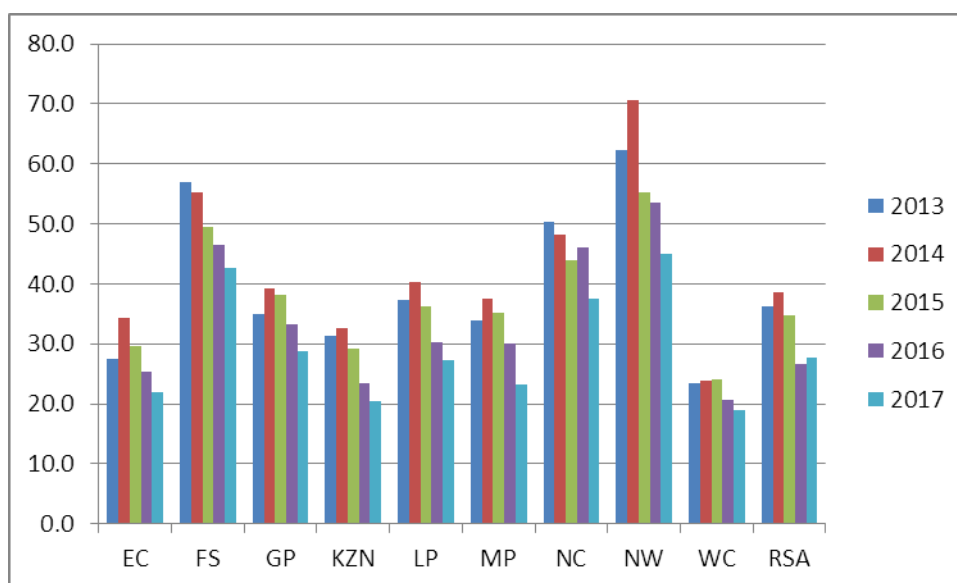


Figure 43: Trend in under-5 mortality rate, by province: 2013 - 2017

Source: StatsSA

Table 67: Trend in percent of deaths occurring inside the health sector or within 24 hours of admission, by province: 2013 - 2017

PROVINCE	% IN HEALTH					% < 24HRS				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	42.8	44.7	43.5	34.2	21.9	37.5	38.5	43.4	45.6	40.2
FS	47.9	49.7	50.5	49.8	22.7	38.8	33.8	32.5	31.6	36.7
GP	46.6	44.8	52.2	51.1	33.7	28.8	22.8	28.2	33.7	28.9
KZN	55.8	59.7	58.9	55.8	35.5	30.5	31.5	30.0	32.7	35.7
LP	43.4	42.9	45.7	44.2	27.6	31.0	36.4	35.5	38.6	40.3
MP	47.7	48.1	51.1	49.4	33.2	35.5	33.1	33.3	32.5	36.0
NC	44.0	50.1	67.7	42.1	37.7	31.6	23.5	33.3	30.2	37.1
NW	42.7	43.1	48.3	47.7	52.4	33.2	32.6	35.5	31.9	33.9
WC	46.0	43.0	45.5	45.7	46.3	35.4	36.6	31.5	34.4	25.8
RSA	47.0	48.3	50.9	48.8	53.8	33.6	31.9	32.8	34.2	34.8

Source: StatsSA & Child

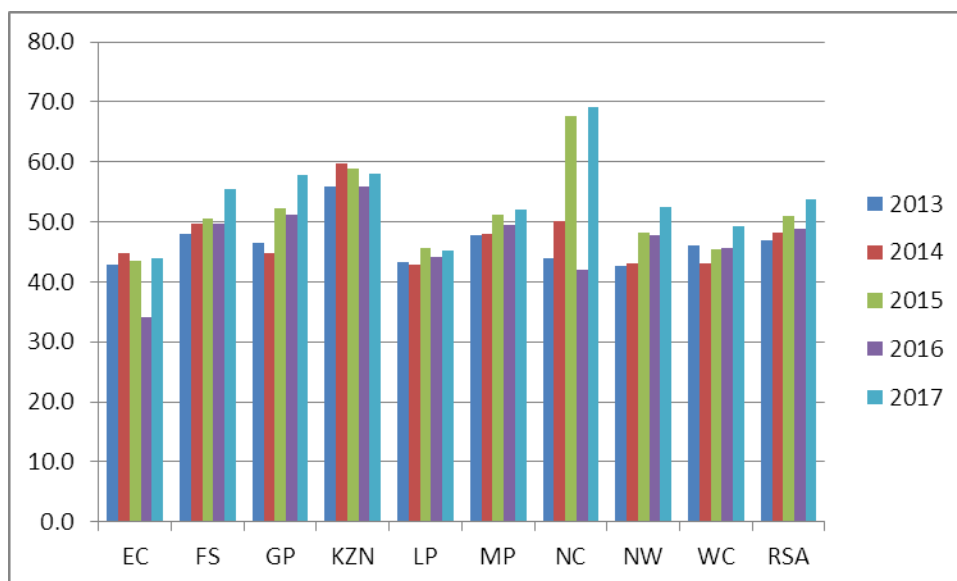


Figure 44: Trend in percent of under-5 deaths inside the health sector, by province: 2013 - 2017

Source: Child PIP

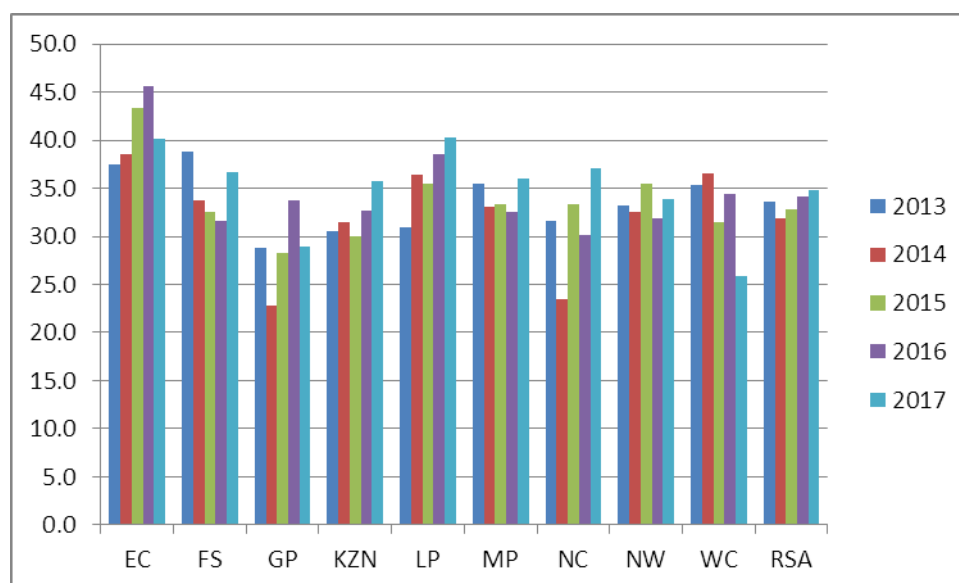


Figure 45: Trend in percent of under-5 deaths occurring <24 hrs of admission, by province: 2013 - 2017

Source: Child PIP

Table 68: Trend in percent of under-5 deaths associated with severe acute malnutrition or HIV by province, 2013 - 2017

PROVINCE	% SAM					% HIV				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	29.7	29.6	26.8	25.0	24.7	31.9	27.2	29.1	27.2	34.7
FS	35.1	36.5	45.2	35.5	30.9	37.3	33.6	35.8	30.8	34.4
GP	15.5	22.8	18.9	21.0	17.1	29.5	29.3	32.2	37.2	30.4
KZN	28.7	26.8	28.5	24.5	25.7	42.5	41.0	39.0	37.1	35.3
LP	39.2	23.6	33.4	37.4	32.1	41.2	45.2	45.0	39.1	35.2
MP	28.8	33.8	33.7	26.6	26.1	46.9	41.7	44.4	43.9	35.8
NC	44.8	52.4	23.7	27.3	33.2	30.2	34.4	25.3	28.8	27.5
NW	43.5	34.6	44.2	47.3	37.3	40.8	19.2	39.1	32.8	32.2
WC	14.0	13.4	12.5	21.5	12.4	20.7	16.7	20.7	11.8	16.1
RSA	31.2	31.0	30.9	29.5	25.6	39.1	34.8	36.9	35.9	32.4

Source: Child PIP

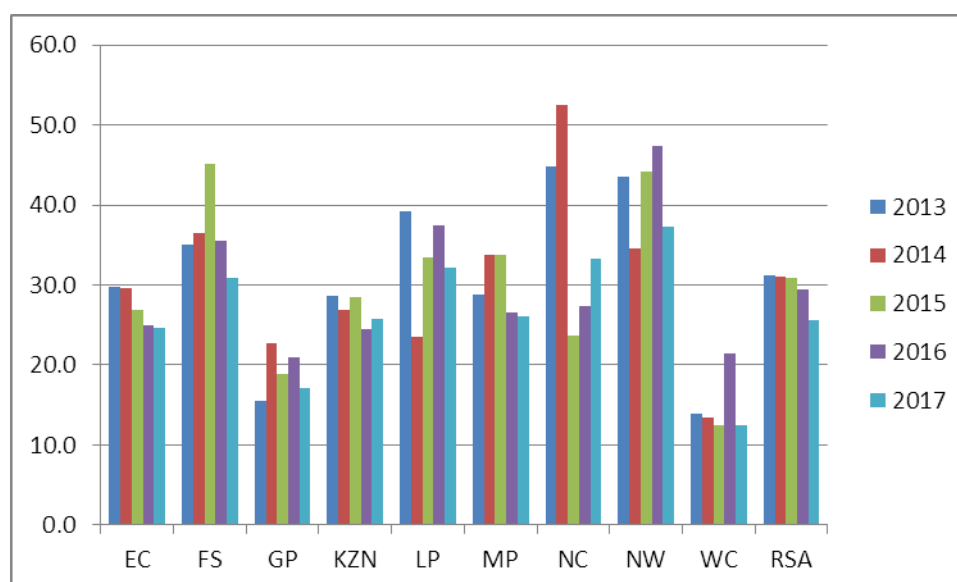


Figure 46: Trend in percent of under-5 deaths associated with severe acute malnutrition, by province: 2013 - 2017

Source: Child PIP

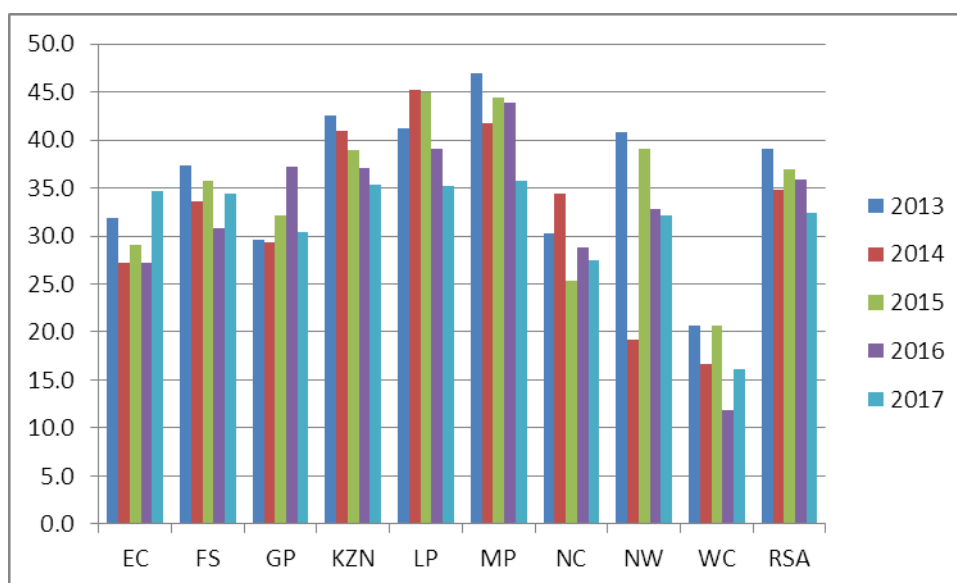


Figure 47: Trend in percent of under-5 deaths associated with HIV, by province: 2013 - 2017

Source: Child PIP

Table 69: Trend in case fatality rates, by province: 2013 - 2017

PROVINCE	GE CFR					ARI CFR					SAM CFR				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	6.9	5.2	3.6	3.3	3.7	5.4	4.2	3.7	3.1	3.0	14.7	11.8	10.1	9.4	10.2
FS	4.2	4.1	2.8	2.8	2.8	3.6	3.1	2.4	3.5	3.2	11.2	12.2	8.1	8.8	9.6
GP	3.5	2.9	1.8	1.7	1.7	2.8	2.1	1.9	1.5	1.5	7.5	9.3	7.5	6.9	6.5
KZN	3.6	3.0	2.2	1.9	2.0	2.9	2.7	2.7	1.9	1.8	10.8	10.4	7.7	6.6	7.4
LP	5.7	4.7	3.0	2.0	2.1	4.7	4.2	3.1	2.9	2.9	16.7	14.9	11.6	8.7	8.3
MP	6.1	5.3	2.7	1.7	1.5	5.9	5.2	3.7	3.6	3.4	13.1	19.1	12.5	9.6	8.4
NC	3.0	3.4	1.8	3.2	3.8	3.8	2.9	1.3	1.4	1.6	11.7	10.9	8.3	5.6	5.1
NW	5.4	3.4	11.3	3.8	3.2	5.1	3.6	3.1	2.7	2.5	11.1	12.3	12.2	11.6	10.6
WC	0.1	0.2	0.1	0.3	0.3	0.4	0.4	0.3	0.4	0.4	3.4	1.8	0.9	0.3	0.6
RSA	4.0	3.3	2.2	2.0	2.1	3.7	2.9	2.3	2.1	2.6	12.0	11.6	8.9	7.2	5.6

Source: DHIS

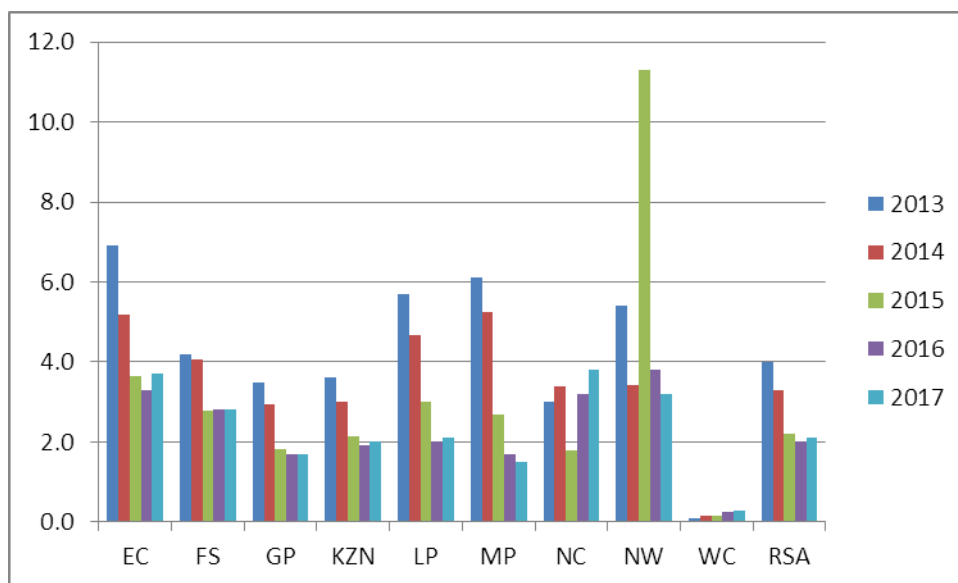


Figure 48: Trend in diarrhoeal disease case fatality rate, by province: 2013 - 2017
Source: Child PIP

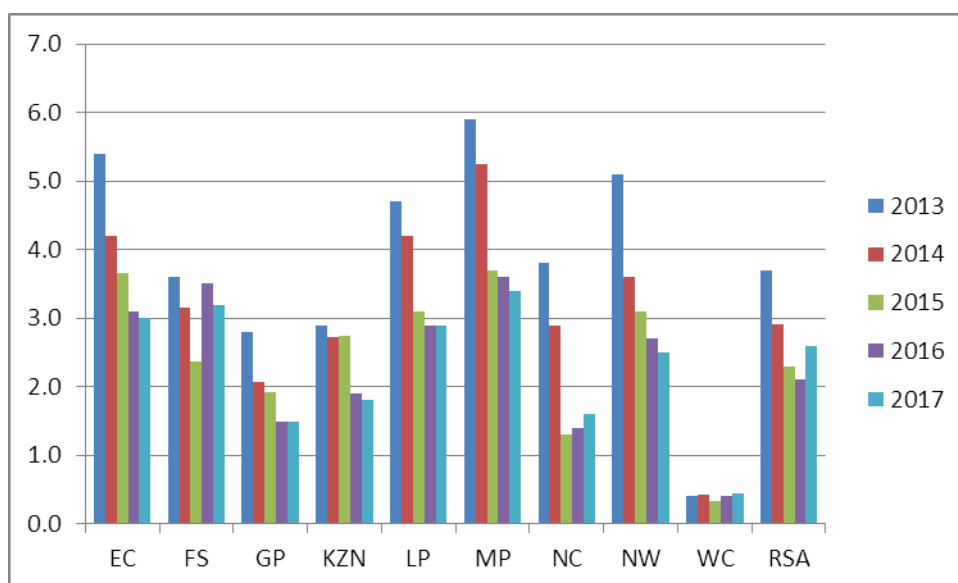


Figure 49: Trend in acute respiratory infection case fatality rate, by province: 2013 - 2017
Source: Child PIP

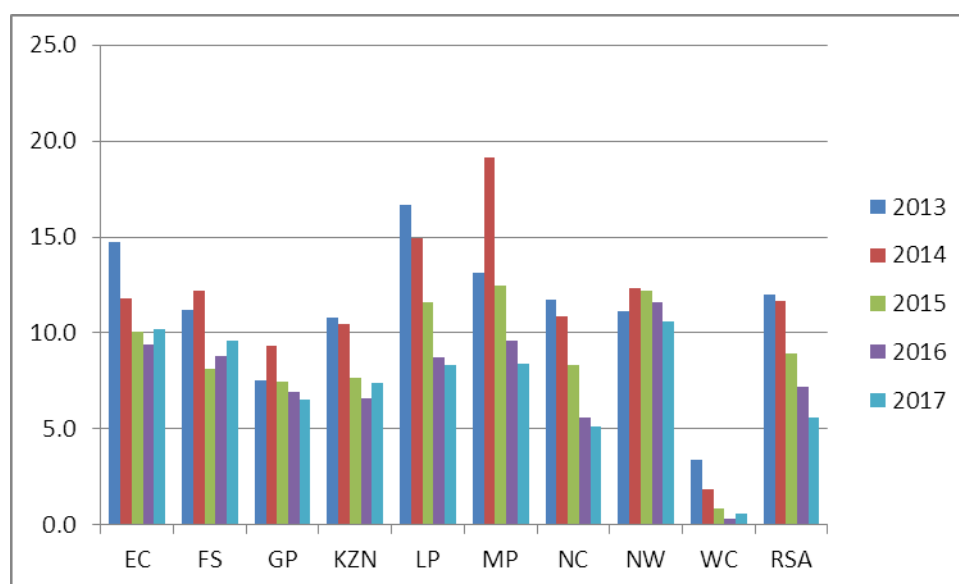


Figure 50: Trend in severe acute malnutrition case fatality rate, by province: 2013 - 2017
Source: Child PIP

Table 70: Cause of death by age group and province: 2017

BROAD CAUSE	ICD-10 CODE	SOUTH AFRICA			EASTERN CAPE			FREE STATE			GAUTENG			KWAZULU-NATAL		
		U1	1 - 4	U5	U1	1 - 4	U5	U1	1 - 4	U5	U1	1 - 4	U5	U1	1 - 4	U5
Intestinal Infections	A00-A09	6.1	9.0	6.8	5.9	7.7	6.5	5.7	9.0	6.3	3.9	5.6	4.3	6.3	7.5	6.6
Tuberculosis	A15-A19	0.6	3.3	1.2	1.0	4.3	2.1	0.4	3.2	0.9	0.4	2.2	0.8	0.6	3.8	1.4
Other bacterial diseases	A30-A49	1.7	1.4	1.6	1.4	0.5	1.1	1.4	0.5	1.2	2.2	1.8	2.1	1.5	1.3	1.4
HIV disease	B20-B24	0.7	1.7	0.9	1.5	1.6	1.5	1.2	3.4	1.6	0.4	1.2	0.6	0.7	1.9	1.0
Other viral diseases	B25-B34	0.9	1.7	1.1	1.1	1.4	1.2	1.3	2.9	1.6	0.6	1.3	0.7	0.8	1.3	0.9
Malnutrition	E40-E46	2.4	6.0	3.2	3.6	4.8	4.0	4.9	10.3	5.9	0.9	2.5	1.2	2.5	4.2	2.9
Influenza and pneumonia	J09-J18	7.8	9.2	8.1	9.6	6.4	8.5	7.8	10.9	8.4	6.4	7.6	6.7	7.4	9.3	7.9
Perinatal conditions	P00-P96	43.9	0.1	33.5	26.8	0.0	17.6	45.2	0.3	36.7	46.9	0.1	37.3	47.5	0.2	36.0
Congenital Disorders	Q00-Q99	9.0	3.5	7.7	7.8	2.4	6.0	9.5	3.7	8.4	11.1	5.2	9.9	9.5	3.6	8.1
Ill defined	R00-R99	13.7	20.2	15.3	21.7	28.1	23.9	11.1	16.7	12.1	13.2	22.8	15.2	11.6	19.1	13.4
Non-natural	V01-Y98	3.4	22.4	7.9	7.4	24.8	13.4	3.0	21.0	6.4	3.2	24.7	7.6	3.7	25.1	8.9
Other		9.9	21.5	12.6	12.1	18.0	14.1	8.6	18.0	10.4	10.8	25.1	13.7	8.0	22.5	11.6

BROAD CAUSE	ICD-10 CODE	LIMPOPO			MPUMALANGA			NORTHERN CAPE			NORTH WEST			WESTERN CAPE		
		U1	1 - 4	U5	U1	1 - 4	U5	U1	1 - 4	U5	U1	1 - 4	U5	U1	1 - 4	U5
Intestinal Infections	A00-A09	7.6	13.0	9.2	9.8	12.5	10.5	6.8	17.1	9.0	9.1	12.1	9.7	4.0	3.3	3.9
Tuberculosis	A15-A19	0.7	2.2	1.1	0.7	3.1	1.3	0.6	5.3	1.6	0.8	4.5	1.6	0.5	3.3	0.9
Other bacterial diseases	A30-A49	2.2	1.8	2.1	1.0	1.0	1.0	0.7	2.1	1.0	1.6	1.5	1.6	1.5	2.3	1.6
HIV disease	B20-B24	0.8	1.6	1.0	0.6	0.8	0.7	1.0	2.7	1.4	0.8	1.3	0.9	0.4	2.0	0.7
Other viral diseases	B25-B34	1.5	1.9	1.7	1.0	1.7	1.2	0.7	1.6	0.9	1.0	3.2	1.4	0.6	0.7	0.6
Malnutrition	E40-E46	2.1	7.2	3.6	2.1	6.9	3.3	3.6	12.8	5.6	4.2	13.6	6.2	0.7	2.7	1.0
Influenza and pneumonia	J09-J18	12.0	14.1	12.7	7.3	9.4	7.9	7.3	7.0	7.3	7.7	9.9	8.2	6.3	3.7	5.8
Perinatal conditions	P00-P96	39.5	0.1	27.7	44.4	0.2	32.6	43.8	0.0	34.5	44.9	0.4	35.4	45.9	0.3	38.4
Congenital Disorders	Q00-Q99	6.1	1.8	4.8	7.1	2.7	6.0	5.9	5.9	5.9	5.2	1.3	4.4	12.2	7.6	11.5
Ill defined	R00-R99	15.4	21.8	17.4	11.5	14.4	12.3	14.8	6.4	13.1	13.0	19.7	14.5	16.9	16.6	16.9
Non-natural	V01-Y98	2.8	15.2	6.5	4.4	23.6	9.5	4.2	20.9	7.7	2.3	14.7	4.9	1.6	29.2	6.2
Other		9.3	19.2	12.3	10.1	23.6	13.7	10.5	18.2	12.1	9.5	17.9	11.3	9.5	28.2	12.6

Source: StatsSA

Table 71: Trend in cause of under-1 death, by province: 2013 – 2017

Cause of Death	ICD-10 codes	Eastern Cape					Free State					Gauteng				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal Infections	A00-A009	14.2	14.6	9.1	6.7	5.9	15.2	13.3	10.4	7.5	5.7	7.9	7.6	6.0	3.6	3.9
Tuberculosis	A15-A19	0.8	0.9	1.0	1.0	1.0	0.6	0.4	0.4	0.6	0.4	0.6	0.5	0.5	0.4	0.4
Other bacterial	A30-A49	2.1	0.0	0.0	1.5	1.4	1.2	0.1	0.1	1.6	1.4	1.8	0.0	0.0	1.8	2.2
HIV	B20-B24	1.7	1.2	1.6	0.9	1.5	1.5	1.3	0.9	1.2	1.2	1.1	0.7	0.6	0.4	0.4
Other viral	B25-B34	1.9	1.5	1.5	1.3	1.1	1.7	1.2	1.1	1.7	1.3	1.5	1.3	1.1	1.0	0.6
Malnutrition	E40-46	3.8	4.8	4.5	4.8	3.6	5.4	6.8	6.9	7.3	4.9	1.5	1.6	1.3	1.2	0.9
Influenza & pneumonia	J09-J18	10.2	10.6	13.7	11.9	9.6	11.0	10.9	11.9	12.2	7.8	7.5	6.7	7.0	5.7	6.4
Perinatal conditions	P00-P96	18.0	16.8	16.4	26.7	26.8	25.3	27.2	27.9	46.0	45.2	30.8	32.2	34.5	45.5	46.9
Congenital Disorder	Q00-Q99	4.2	4.8	6.3	6.0	7.8	4.6	4.9	5.6	7.5	9.5	7.3	9.3	8.3	11.4	11.1
Ill defined	R00-R99	19.6	21.4	22.7	21.8	21.7	10.7	10.2	10.2	12.3	11.1	15.6	13.7	14.7	14.7	13.2
Non-natural	V-Y	4.0	5.1	5.6	7.1	7.4	3.0	3.3	4.4	3.5	3.0	3.2	2.6	3.4	3.2	3.2
Other		19.5	18.3	17.5	10.2	12.1	19.8	20.4	20.1		8.6	21.2	23.8	22.6	11.2	10.8

Cause of Death	ICD-10 codes	KwaZulu-Natal					Limpopo					Mpumalanga				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal Infections	A00-A009	16.4	13.5	10.4	7.0	6.3	17.2	15.3	12.4	8.3	7.6	18.9	19.5	14.4	11.0	9.8
Tuberculosis	A15-A19	1.3	1.1	0.9	0.6	0.6	1.0	1.3	0.7	0.8	0.7	0.7	0.5	0.7	0.8	0.7
Other bacterial	A30-A39	1.7	0.0	0.0	2.2	1.5	1.4	0.0	0.0	1.7	2.2	1.0	0.0	0.1	1.7	1.0
HIV	B20-B24	2.1	1.6	1.3	0.7	0.7	0.7	0.6	0.7	0.7	0.8	1.5	1.1	1.3	1.1	0.6
Other viral	B25-B34	2.3	2.3	1.5	1.4	0.8	1.9	1.7	1.6	1.4	1.5	2.3	1.2	2.4	1.7	1.0
Malnutrition	E40-46	3.0	3.6	4.2	3.0	2.5	2.6	2.7	3.7	3.6	2.1	2.7	4.2	5.0	2.6	2.1
Influenza & pneumonia	J10-J18	7.8	7.1	8.4	6.6	7.4	11.8	14.4	15.5	12.7	12.0	10.2	11.4	11.6	9.4	7.3
Perinatal conditions	P00-P96	25.3	28.4	27.8	43.1	47.5	20.9	21.3	25.5	35.5	39.5	23.2	22.6	24.5	37.0	44.4
Congenital Disorder	Q00-Q90	3.9	6.0	6.8	9.0	9.5	3.6	4.2	3.9	6.4	6.1	3.7	4.4	4.6	6.7	7.1
Ill defined	R95-R99	10.5	8.5	9.2	10.8	11.6	15.1	13.8	13.4	14.0	15.4	8.2	8.7	10.5	10.0	11.5
Non-natural	V-Y	3.6	3.6	4.4	5.2	3.7	4.0	4.6	4.5	4.7	2.8	3.6	4.4	4.4	4.3	4.4
Other		22.1	24.3	25	10.5	8.0	19.8	20.1	18.2	10.1	9.3	24.0	22.0	20.7	13.8	10.1

Cause of Death	ICD-10 codes	North West					Northern Cape					Western Cape				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal Infections	A00-A009	18.3	18.3	11.7	9.7	9.1	13.7	13.5	10.4	7.4	6.8	6.5	7.6	4.5	4.5	4.0
Tuberculosis	A15-A19	1.1	1.0	1.0	0.8	0.8	0.6	0.9	0.4	0.6	0.6	0.3	0.2	0.4	0.6	0.5
Other bacterial	A30-A39	1.8	0.0	0.0	2.4	1.6	1.3	0.0	0.0	1.6	0.7	1.2	0.0	0	1.7	1.5
HIV	B20-B24	1.3	0.7	0.6	0.8	0.8	5.0	3.2	2.1	0.9	1.0	1.8	1.2	1.3	1.5	0.4
Other viral	B25-B34	1.6	1.4	2.0	1.1	1.0	1.6	1.4	1.7	1.7	0.7	1.1	1.3	0.4	0.4	0.6
Malnutrition	E40-46	2.8	5.2	4.3	5.9	4.2	3.6	3.3	3.6	5.1	3.6	0.9	0.8	0.6	0.8	0.7
Influenza & pneumonia	J10-J18	10.9	8.7	9.4	8.3	7.7	7.6	8.9	12.9	8.2	7.3	4.8	4.8	8	6.0	6.3
Perinatal conditions	P00-P96	25.4	26.9	30.5	40.0	44.9	22.9	24.3	25.9	36.8	43.8	27.4	25.4	25.6	40.9	45.9
Congenital Disorder	Q00-Q90	3.3	3.6	3.7	5.1	5.2	2.6	5.2	5.3	6.5	5.9	9.4	10.9	9.3	13.0	12.2
Ill defined	R95-R99	11.3	12.6	11.5	12.7	13.0	14.5	11.1	10.9	15.2	14.8	16.4	17.7	18.2	16.3	16.9
Non-natural	V-Y	2.3	2.4	2.8	3.0	2.3	4.2	5.6	3.0	4.4	4.2	2.2	2.2	2.7	2.1	1.6
Other		19.9	19.2	22.5	10.2	9.5	22.4	22.6	23.9	11.7	10.5	28.0	27.9	29.0	12.1	9.5

Source: StatsSA

Table 72: Trend in cause of 1 – 4 years death, by province: 2013 – 2017

Cause of Death	ICD-10 codes	Eastern Cape					Free State					Gauteng				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal infections	A00-A09	12.3	14.7	9.2	7.4	7.7	22.4	19.9	14.9	9.7	9.0	10.4	9.6	7.7	6.4	5.6
Tuberculosis	A15-A19	3.7	4.2	3.8	2.6	4.3	2.2	2.7	1.8	3.1	3.2	2.2	1.9	1.9	1.8	2.2
Other bacterial	A30-A39	1.3	1.0	0.1	0.7	0.5	1.2	1.2	0.0	1.6	0.5	1.8	1.5	0.0	1.1	1.8
HIV	B20-B24	1.5	2.8	2.2	2.2	1.6	2.5	2.5	3.0	2.2	3.4	1.6	1.5	1.0	0.9	1.2
Other viral	B25-B34	1.7	0.9	1.8	1.0	1.4	2.3	2.4	3.0	2.7	2.9	1.5	1.7	1.3	1.2	1.3
Malnutrition	E40-46	4.9	7.2	6.4	5.4	4.8	9.9	9.6	12.3	9.9	10.3	4.5	5.3	4.8	3.7	2.5
Influenza & Pneumonia	J10-J18	5.9	7.7	7.3	6.3	6.4	11.2	10.9	13.5	12.1	10.9	9.0	9.2	7.9	7.1	7.6
Congenital Disorders	Q00-Q90	0.9	1.3	2.4	2.1	2.4	1.6	2.0	2.6	3.1	3.7	2.9	3.6	4.4	4.8	5.2
Ill defined	R95-R99	31.7	27.9	30.9	31.1	28.1	12.1	11.6	7.7	18.4	16.7	21.0	22.0	20.5	23.4	22.8
Non-natural	V-Y	17.4	15.8	21.4	21.8	24.8	15.0	19.5	19.4	23.4	21.0	20.9	21.3	25.4	24.6	24.7
Other		18.7	16.5	14.4	19.5	18.0	19.6	17.7	22.0	13.7	18.0	24.2	22.4	25.1	25.1	25.1

Cause of Death	ICD-10 codes	KwaZulu-Natal					Limpopo					Mpumalanga				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal infections	A00-A09	18.1	19.3	11.3	8.4	7.5	18.7	18.8	16.2	12.3	13.0	21.3	20.1	18.3	12.3	12.5
Tuberculosis	A15-A19	4.0	3.6	2.7	3.3	3.8	2.5	2.6	2.1	1.8	2.2	3.7	3.1	1.7	1.8	3.1
Other bacterial	A30-A39	1.4	1.8	0.0	1.1	1.3	1.3	1.6	0.0	2.2	1.8	1.0	1.9	0.1	1.5	1.0
HIV	B20-B24	2.8	3.1	2.8	1.9	1.9	1.2	0.8	1.0	0.8	1.6	1.4	2.2	0.9	2.5	0.8
Other viral	B25-B34	2.9	2.4	2.8	1.6	1.3	1.9	2.6	2.9	2.9	1.9	2.7	2.2	2.9	2.9	1.7
Malnutrition	E40-46	5.3	7.9	8.5	4.8	4.2	7.7	8.7	11.3	7.1	7.2	6.1	7.6	8.7	4.2	6.9
Influenza & Pneumonia	J10-J18	9.1	7.3	9.9	9.1	9.3	13.6	14.5	13.4	14.6	14.1	12.1	9.7	13.3	10.4	9.4
Congenital Disorders	Q00-Q90	1.2	2.2	2.4	3.4	3.6	1.1	0.9	1.7	1.7	1.8	1.1	1.0	1.0	2.0	2.7
Ill defined	R95-R99	18.9	13.4	14.4	18.3	19.1	22.3	18.5	19.6	21.6	21.8	10.6	12.4	14.8	15.0	14.4
Non-natural	V-Y	17.9	22.6	22.1	24.4	25.1	11.8	13.0	12.9	13.9	15.2	18.7	20.6	17.0	22.2	23.6
Other		18.4	16.4	23.0	23.8	22.5	17.9	18.0	19.0	21.1	19.2	21.3	19.2	21.3	25.2	23.6

Cause of Death	ICD-10 codes	North West					Northern Cape					Western Cape				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal infections	A00-A09	24.2	24.1	16.1	12.9	12.1	19.2	25.1	16.9	12.0	17.1	9.1	9.9	5.9	6.5	3.3
Tuberculosis	A15-A19	4.3	2.9	3.0	3.8	4.5	4.3	3.4	5.0	2.9	5.3	2.3	4.3	1.7	2.5	3.3
Other bacterial	A30-A39	1.1	1.0	0.0	2.0	1.5	1.7	0.6	0.0	0.8	2.1	2.5	3.1	0.7	1.1	2.3
HIV	B20-B24	2.2	2.0	1.1	1.5	1.3	6.3	6.2	3.5	2.1	2.7	3.0	2.6	2.2	1.4	2.0
Other viral	B25-B34	2.1	1.9	3.1	2.8	3.2	3.0	1.9	0.8	3.7	1.6	0.5	0.7	2.4	0.3	0.7
Malnutrition	E40-46	9.9	16.5	11.0	12.9	13.6	11.9	15.5	17.3	19.1	12.8	2.5	3.5	2.9	3.3	2.7
Influenza & Pneumonia	J10-J18	10.2	6.7	11.3	11.4	9.9	5.0	4.6	8.1	7.9	7.0	5.7	5.9	8.5	4.4	3.7
Congenital Disorders	Q00-Q90	1.2	0.5	1.7	2.0	1.3	3.3	2.5	2.7	2.9	5.9	5.0	5.2	5.1	6.5	7.6
Ill defined	R95-R99	12.3	16.8	17.2	15.5	19.7	12.3	8.4	9.2	5.8	6.4	11.8	13.2	15.6	15.3	16.6
Non-natural	V-Y	14.1	12.8	14.5	17.1	14.7	13.9	17.0	19.2	19.9	20.9	33.9	29.6	30.2	36.2	29.2
Other		18.4	14.8	20.9	18.0	17.9	19.1	14.8	17.3	22.8	18.2	23.7	22.0	24.6	22.6	28.2

Source: StatsSA

Table 73: Trend in cause of under-5 death, by province: 2013 – 2017

Cause of Death	ICD-10 codes	Eastern Cape					Free State					Gauteng				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal Infections	A00-A009	13.6	14.6	9.1	7.0	6.5	16.9	14.8	11.4	7.1	6.3	8.4	8.0	6.3	4.2	4.3
Tuberculosis	A15-A19	1.8	2.0	1.9	1.5	2.1	1.0	0.9	0.7	1.0	0.9	0.9	0.8	0.8	0.7	0.8
Other bacterial	A30-A39	1.8	1.2	0.1	1.2	1.1	1.2	1.8	0.1	0.1	1.2	1.8	2.1	0.0	0.4	2.1
HIV	B20-B24	1.7	1.7	1.8	1.3	1.5	1.7	1.6	1.4	1.3	1.6	1.2	0.8	0.7	0.5	0.6
Other viral	B25-B34	1.9	1.3	1.6	1.2	1.2	1.8	1.5	1.5	1.7	1.6	1.5	1.4	1.1	1.0	0.7
Malnutrition	E40-46	4.1	5.6	5.1	5.0	4.0	6.5	7.3	8.1	7.0	5.9	2.1	2.3	2.0	1.7	1.2
Influenza & pneumonia	J10-J18	8.8	9.6	11.7	10.0	8.5	11.1	10.9	12.2	10.8	8.4	7.8	7.2	7.2	6.0	6.7
Neonatal	P00-P90	13.7	12.9	14.2	17.8	17.6	22.9	24.6	26.9	31.2	36.7	27.2	29.1	29.9	35.9	37.3
Congenital Disorders	Q00-Q90	3.1	3.4	5.0	4.7	6.0	3.9	4.0	4.9	5.8	8.4	6.4	7.6	7.5	10.0	9.9
Ill defined	R95-R99	23.5	23.5	25.3	24.9	23.9	11.0	10.5	9.7	12.2	12.1	16.7	15.4	15.9	16.5	15.2
Non-natural	V-Y	8.4	8.6	10.6	12.0	13.4	5.8	6.9	7.6	7.3	6.4	6.9	6.4	7.9	7.8	7.6
Other		17.6	15.6	13.5	13.3	14.1	16.2	15.2	15.5	14.6	10.4	19.1	18.9	20.6	15.3	13.7

Cause of Death	ICD-10 codes	KwaZulu-Natal					Limpopo					Mpumalanga				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal Infections	A00-A009	16.8	14.9	10.6	7.3	6.6	17.7	16.4	13.5	9.5	9.2	19.6	19.6	15.4	11.3	10.5
Tuberculosis	A15-A19	2.0	1.7	1.4	1.3	1.4	1.6	1.7	1.1	1.1	1.1	1.6	1.2	1.0	1.1	1.3
Other bacterial	A30-A39	1.6	2.1	0.0	0.3	1.4	1.4	1.4	0.0	0.2	2.1	1.0	1.8	0.0	0.1	1.0
HIV	B20-B24	2.3	1.9	1.6	1.0	1.0	0.8	0.6	0.7	0.7	1.0	1.4	1.4	1.2	1.5	0.7
Other viral	B25-B34	2.5	2.3	1.8	1.4	0.9	1.9	2.0	2.0	1.9	1.7	2.5	1.5	2.5	2.0	1.2
Malnutrition	E40-46	3.6	4.7	5.3	3.5	2.9	4.4	4.5	5.9	4.7	3.6	3.7	5.1	6.0	3.0	3.3
Influenza & pneumonia	J10-J18	8.1	7.1	8.8	7.3	7.9	12.4	14.4	14.9	13.3	12.7	10.8	11.0	12.1	9.7	7.9
Neonatal	P00-P90	25.3	28.2	28.6	31.7	36.0	16.6	17.0	20.7	24.5	27.7	21.4	20.0	22.6	27.3	32.6
Congenital Disorders	Q00-Q90	3.2	4.8	5.7	7.5	8.1	2.7	2.9	3.2	4.9	4.8	3.0	3.4	3.6	5.5	6.0
Ill defined	R95-R99	12.5	9.7	10.4	12.8	13.4	17.4	15.3	15.2	16.4	17.4	8.8	9.7	11.6	11.3	12.3
Non-natural	V-Y	7.2	8.2	8.7	10.3	8.9	6.6	7.2	6.9	7.6	6.5	8.0	8.7	7.7	9.0	9.5
Other		14.9	14.4	16.9	15.6	11.6	16.5	16.6	16.0	15.1	12.3	18.2	16.6	16.3	18.3	13.7

Cause of Death	ICD-10 codes	North West					Northern Cape					Western Cape				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Intestinal Infections	A00-A009	19.8	19.9	12.7	10.5	9.7	15.0	16.4	12.0	8.5	9.0	7.0	8.1	4.7	4.9	3.9
Tuberculosis	A15-A19	1.9	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.1	1.6	0.7	1.0	0.6	0.9	0.9
Other bacterial	A30-A39	1.6	1.3	0.0	0.2	1.6	1.4	0.9	0.0	0.1	1.0	1.4	1.9	0.1	0.1	1.6
HIV	B20-B24	1.6	1.1	0.7	1.0	0.9	5.3	3.9	2.4	1.1	1.4	2.0	1.4	1.4	1.4	0.7
Other viral	B25-B34	1.8	1.6	2.2	1.5	1.4	1.9	1.5	1.5	2.2	0.9	1.0	1.2	0.7	0.4	0.6
Malnutrition	E40-46	4.7	8.4	5.8	7.6	6.2	5.6	6.3	6.9	8.3	5.6	1.2	1.3	1.0	1.3	1.0
Influenza & pneumonia	J10-J18	10.7	8.2	9.8	9.1	8.2	6.9	7.9	11.7	8.1	7.3	5.0	5.0	8.1	5.7	5.8
Neonatal	P00-P90	21.6	21.2	27.0	30.1	35.4	22.0	22.1	26.6	28.4	34.5	27.8	28.2	30.2	33.3	38.4
Congenital Disorders	Q00-Q90	2.8	2.6	3.3	4.4	4.4	2.7	4.1	4.7	5.6	5.9	8.4	8.9	8.5	11.8	11.5
Ill defined	R95-R99	11.5	13.8	12.8	13.4	14.5	13.9	10.4	10.5	13.1	13.1	15.5	16.9	17.8	16.1	16.9
Non-natural	V-Y	5.3	5.3	5.4	6.5	4.9	6.5	8.5	6.9	7.9	7.7	8.3	7.4	7.6	8.6	6.2
Other		16.7	15.1	18.8	14.2	11.3	17.3	16.5	15.3	15.6	12.1	21.7	18.7	19.3	15.5	12.6

Source: StatsSA

Table 74: Mortality data by district: 2017

Province	District	Births	Death				NMR	IMR	U5MR	In Hospital			
			NN	<1	1-4	<5				<1	%	<5	%
EC	Sarah Baartman	5 406	42	110	29	139	7.8	20.3	25.7	43	39.1	55	39.6
	Amathole	10 277	39	122	68	190	3.8	11.9	18.5	65	53.3	82	43.2
	Buffalo City	14 585	99	223	87	310	6.8	15.3	21.3	131	58.7	173	55.8
	Chris Hani	11 583	92	228	92	320	7.9	19.7	27.6	114	50.0	146	45.6
	Joe Qadi	4 756	24	95	49	144	5.0	20.0	30.3	38	40.0	55	38.2
	OR Tambo	27 587	53	297	253	550	1.9	10.8	19.9	143	48.1	244	44.4
	Alfred Nzo	14 102	71	191	113	304	5.0	13.5	21.6	43	22.5	64	21.1
	Nelson Mandela Bay Metro	17 293	107	251	103	354	6.2	14.5	20.5	139	55.4	197	55.6
FS	Xhariep	1 344	14	43	16	59	10.4	32.0	43.9	12	27.9	17	28.8
	Mangaung	15 888	242	444	113	557	15.2	27.9	35.1	279	62.8	332	59.6
GP	Lejweleputswa	9 646	244	428	91	519	25.3	44.4	53.8	253	59.1	300	57.8
	Tabo Mafutsanyane	12 664	234	462	92	554	18.5	36.5	43.7	270	58.4	305	55.1
	Fezile Dabi	7 021	114	231	65	296	16.2	32.9	42.2	127	55.0	146	49.3
	Sedibeng	15 033	263	462	125	587	17.5	30.7	39.0	285	61.7	327	55.7
	West Rand	14 159	183	325	76	401	12.9	23.0	28.3	211	64.9	237	59.1
	Ekurhuleni	56 819	697	1263	292	1555	12.3	22.2	27.4	756	59.9	869	55.9
	Johannesburg	61 098	808	1472	371	1843	13.2	24.1	30.2	867	58.9	998	54.2
	Tshwane	59 177	625	1210	353	1563	10.6	20.4	26.4	824	68.1	1005	64.3
KZN	Ugu	14 219	162	291	111	402	11.4	20.5	28.3	206	70.8	258	64.2
	uMgungundlovu	9 884	168	328	115	443	17.0	33.2	44.8	208	63.4	249	56.2
LP	Uthukela	13 170	138	280	109	389	10.5	21.3	29.5	171	61.1	203	52.2
	Umzinyathi	15 151	129	238	75	313	8.5	15.7	20.7	155	65.1	184	58.8
	Amajuba	8 942	112	211	44	255	12.5	23.6	28.5	117	55.5	127	49.8
	Zululand	18 359	119	279	106	385	6.5	15.2	21.0	155	55.6	188	48.8
	Umkhanyakude	15 263	67	125	51	176	4.4	8.2	11.5	92	73.6	109	61.9
	King Cetshwayo	13 743	93	196	80	276	6.8	14.3	20.1	117	59.7	144	52.2
	iLembe	13 708	103	156	51	207	7.5	11.4	15.1	117	75.0	138	66.7
	Harry Gwala	15 866	53	118	55	173	3.3	7.4	10.9	66	55.9	80	46.2
	eThekweni	57 573	493	782	171	953	8.6	13.6	16.6	550	70.3	625	65.6
	Mopani	22 929	238	516	205	721	10.4	22.5	31.4	262	50.8	324	44.9
	Vhembe	30 570	167	391	177	568	5.5	12.8	18.6	196	50.1	261	46.0
	Capricorn	28 680	372	739	280	1019	13.0	25.8	35.5	431	58.3	542	53.2
	Waterberg	15 675	146	310	127	437	9.3	19.8	27.9	143	46.1	180	41.2
	Greater Sekhukhune	23 371	128	368	201	569	5.5	15.7	24.3	138	37.5	194	34.1
MP	Gert Sibande	16 541	261	481	122	603	15.8	29.1	36.5	282	58.6	319	52.9
	Nkangala	21 186	199	406	127	533	9.4	19.2	25.2	226	55.7	277	52.0
	Ehlanzeni	39 650	208	428	230	658	5.2	10.8	16.6	255	59.6	337	51.2
NC	Namakwa	1 530	37	52	9	61	24.2	34.0	39.9	38	73.1	42	68.9
	Pixley ka Seme	2 984	64	137	39	176	21.4	45.9	59.0	79	57.7	97	55.1
	ZF Mgcawu	4 770	57	137	28	165	11.9	28.7	34.6	114	83.2	138	83.6
	Frances Baard	8 818	89	189	64	253	10.1	21.4	28.7	122	64.6	153	60.5
	John Taolo Gaetsewe	5 353	92	179	47	226	17.2	33.4	42.2	140	78.2	179	79.2
NW	Bojanala Platinum	22 916	365	662	147	809	15.9	28.9	35.3	372	56.2	416	51.4
	Ngaka Modiri Molema	11 151	320	606	189	795	28.7	54.3	71.3	330	54.5	401	50.4
	Ruth Segomotsi Mompati	12 304	138	340	113	453	11.2	27.6	36.8	191	56.2	240	53.0
	Kenneth Kaunda	9 733	169	378	88	466	17.4	38.8	47.9	217	57.4	266	57.1
WC	West Coast	5 510	46	90	22	112	8.3	16.3	20.3	50	55.6	54	48.2
	Cape Winelands	13 029	80	183	34	217	6.1	14.0	16.7	91	49.7	108	49.8
	Overberg	3 732	26	51	13	64	7.0	13.7	17.1	23	45.1	28	43.8
	Garden Route (Eden)	8 762	72	142	31	173	8.2	16.2	19.7	66	46.5	80	46.2
	Central Karoo	1 164	20	31	4	35	17.2	26.6	30.1	22	71.0	24	68.6
	City of Cape Town	63 848	577	1016	197	1213	9.0	15.9	19.0	534	52.6	600	49.5

Source: StatsSA

Table 75: Trend in child mortality by district: 2013 - 2017

Province	District	IMR					U5MR				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	Sarah Baartman	21.7	24.2	27.7	28.8	20.3	28.5	30.2	35.2	38.2	25.7
	Amathole	28.7	28.5	22.2	20.4	11.9	44.4	43.5	34.6	3.3	18.5
	Buffalo City	15.4	17.9	19.7	12.7	15.3	21.4	24.3	27.0	18.2	21.3
	Chris Hani	24.5	33.8	22.6	19.9	19.7	34.3	47.5	31.6	28.1	27.6
	Joe Qadi	30.5	41.6	33.5	35.7	20.0	45.6	60.8	48.4	50.3	30.3
	OR Tambo	12.0	24.4	14.4	12.8	10.8	28.9	41.0	26.2	23.5	19.9
	Alfred Nzo	18.7	10.3	14.1	12.1	13.5	18.7	17.1	20.6	18.4	21.6
FS	Nelson Mandela Bay Metro	16.9	25.5	25.7	17.7	14.5	19.8	32.8	32.5	22.7	20.5
	Fezile Dabi	82.1	34.0	37.2	33.2	32.9	105.1	45.4	51.0	42.1	42.2
	Lejweleputswa	54.1	60.4	46.0	45.4	44.4	73.2	75.5	59.2	58.4	53.8
	Mangaung	28.1	29.0	28.1	23.3	27.9	35.2	37.4	34.5	30.1	35.1
	Tabo Mafutsanyane	52.0	48.2	43.1	39.7	36.5	68.5	61.2	54.7	51.9	43.7
GP	Xhariep	58.8	71.0	77.7	74.2	32.0	82.3	93.9	90.8	126.8	43.9
	Sedibeng	54.0	33.6	39.0	31.6	30.7	66.8	41.8	47.2	39.7	39.0
	West Rand	45.0	52.0	56.5	33.0	23.0	57.2	66.7	72.3	44.4	28.3
KZN	Ekurhuleni	33.7	33.4	34.0	30.1	22.2	41.5	41.6	42.5	36.9	27.4
	Johannesburg	27.9	37.7	27.4	27.7	24.1	34.8	45.4	34.5	35.3	30.2
	Tshwane	15.1	18.5	22.3	17.4	20.4	20.0	24.3	28.9	22.8	26.4
	Ugu	24.3	25.5	23.5	21.5	5.2	34.6	34.2	33.7	31.0	7.2
	uMgungundlovu	25.1	31.1	24.5	23.1	33.2	33.6	40.4	32.7	31.8	44.8
	Uthukela	31.4	33.4	27.9	23.8	21.3	41.8	46.0	37.5	31.8	29.5
	Umzinyathi	24.7	28.7	24.1	17.8	15.7	34.4	37.0	30.9	22.5	20.7
	Amajuba	34.4	34.8	34.4	25.5	23.6	42.9	42.4	42.6	33.4	28.5
	Zululand	27.0	33.8	26.2	22.1	15.2	37.1	43.0	34.8	28.9	21.0
	Umkhanyakude	16.2	16.9	16.7	12.6	8.2	23.4	22.7	21.8	17.2	11.5
	King Cetshwayo	35.8	37.4	29.8	9.5	14.3	43.4	45.0	36.9	14.3	20.1
	iLembe	31.6	28.7	29.7	21.2	11.4	43.3	41.1	39.8	26.3	15.1
	Harry Gwala	48.9	22.8	27.6	26.1	7.4	66.4	34.9	39.2	38.1	10.9
LP	eThekwini	12.1	13.2	12.6	11.8	13.6	15.6	17.6	16.7	16.3	16.6
	Mopani	25.4	41.3	34.6	27.5	22.5	37.8	55.0	47.2	45.2	31.4
	Vhembe	23.5	19.9	18.7	14.0	12.8	37.2	30.5	28.2	23.8	18.6
	Capricorn	27.6	29.1	30.2	26.6	25.8	41.2	41.1	41.6	36.2	35.5
	Waterberg	26.2	29.4	23.3	18.3	19.8	36.4	41.2	31.1	25.2	27.9
MP	Greater Sekhukhune	17.2	17.3	22.6	16.9	15.7	27.5	27.7	31.8	26.1	24.3
	Gert Sibande	39.3	55.9	47.1	39.5	29.1	49.7	68.7	57.8	49.5	36.5
	Nkangala	23.4	28.0	25.1	23.9	19.2	32.4	38.8	33.8	31.6	25.2
NC	Ehlanzeni	16.5	16.1	17.3	14.1	10.8	26.1	23.9	26.4	21.1	16.6
	Namakwa	21.7	31.1	19.6	23.1	34.0	26.3	33.1	24.3	29.7	39.9
	Pixley ka Seme	65.6	57.4	70.3	88.0	45.9	86.8	77.5	91.3	113.4	59.0
	ZF Mgcawu	36.7	22.1	31.1	25.9	28.7	48.3	28.8	44.1	34.4	34.6
	Frances Baard	22.8	29.3	20.1	19.2	21.4	31.6	41.0	26.6	24.1	28.7
NW	John Taolo Gaetsewe	53.0	52.6	40.3	45.8	33.4	65.7	70.0	52.2	59.7	42.2
	Bojanala Platinum	44.5	36.2	27.1	32.3	28.9	59.7	50.1	35.6	42.7	35.3
	Ngaka Modiri Molema	55.9	63.3	59.5	60.0	54.3	75.1	91.8	77.8	83.2	71.3
	Ruth Segomotsi Mompati	38.1	62.6	38.9	48.6	27.6	51.2	88.1	48.5	64.8	36.8
WC	Kenneth Kaunda	46.1	46.3	35.4	29.9	38.8	61.2	58.8	44.6	38.2	47.9
	West Coast	22.2	15.4	15.8	13.3	16.3	25.1	19.2	19.8	18.6	20.3
	Cape Winelands	15.1	16.6	15.3	14.4	14.0	19.2	21.1	19.6	17.9	16.7
	Overberg	20.1	19.5	25.6	18.7	13.7	23.9	22.8	29.3	24.9	17.1
	Garden route (Eden)	19.3	20.4	20.9	15.9	16.2	22.8	25.1	24.8	17.7	19.7
	Central Karoo	21.0	27.4	31.6	19.1	26.6	29.5	29.1	40.3	24.3	30.1
	City of Cape Town	19.2	19.4	20.3	17.5	15.9	19.7	24.1	24.6	21.4	19.0

Source: StatsSA

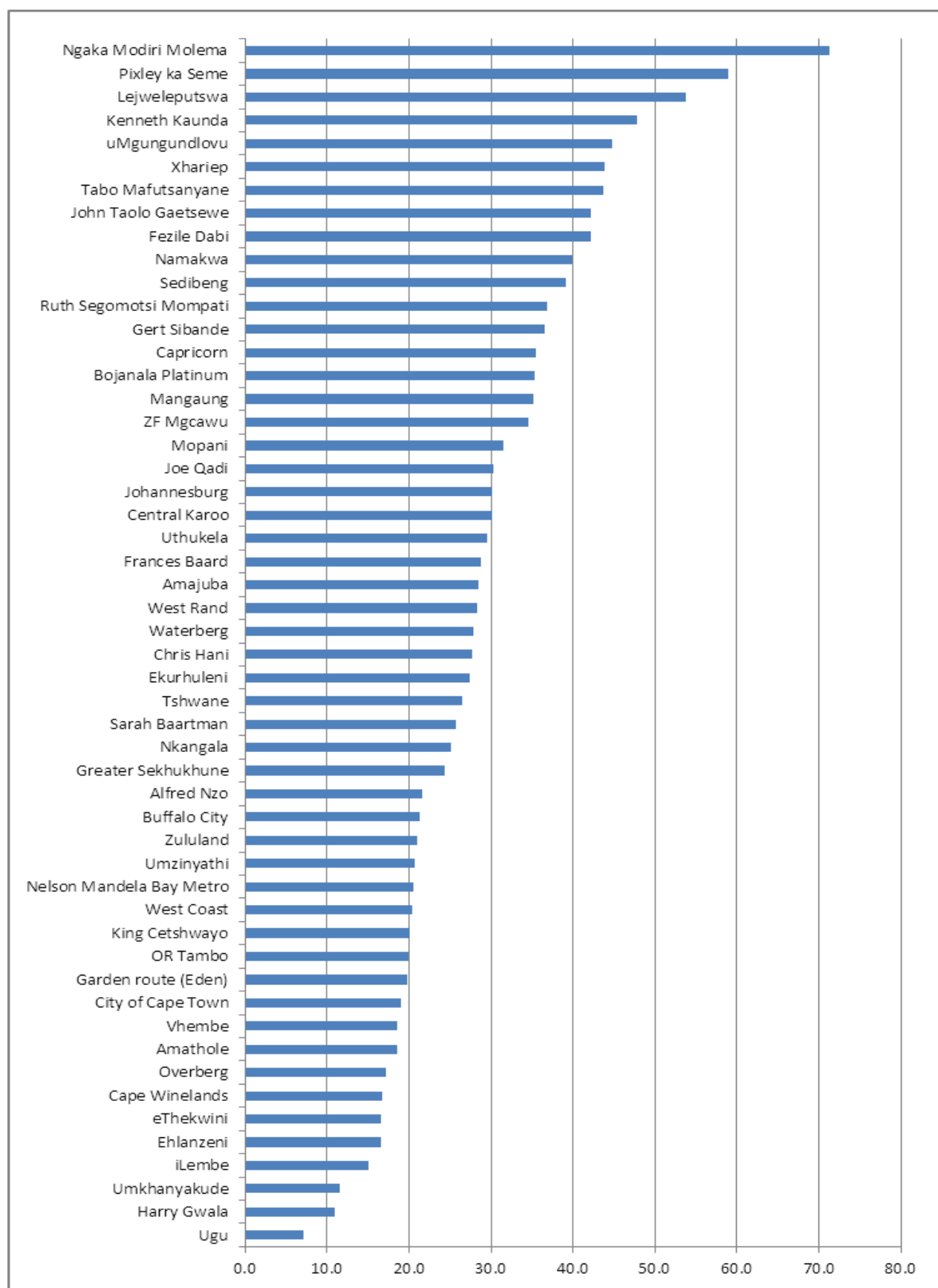


Figure 51: District ranking by under-5 mortality rate: 2017

Source: Child PIP

Table 76: District ranking by U5MR: 2017

Rank	District	U5MR				
		2017	2016	2015	2014	2013
1	Ugu	7.2	31.0	33.7	34.2	34.6
2	Harry Gwala	10.9	38.1	39.2	34.9	66.4
3	Umkhanyakude	11.5	17.2	21.8	22.7	23.4
4	iLembe	15.1	26.3	39.8	41.1	43.3
5	Ehlanzeni	16.6	21.1	26.4	23.9	26.1
6	eThekweni	16.6	16.3	16.7	17.6	15.6
7	Cape Winelands	16.7	17.9	19.6	21.1	19.2
8	Overberg	17.1	24.9	29.3	22.8	23.9
9	Amathole	18.5	3.3	34.6	43.5	44.4
10	Vhembe	18.6	23.8	28.2	30.5	37.2
11	City of Cape Town	19.0	21.4	24.6	24.1	19.7
12	Garden route (Eden)	19.7	17.7	24.8	25.1	22.8
13	OR Tambo	19.9	23.5	26.2	41.0	28.9
14	King Cetshwayo	20.1	14.3	36.9	45.0	43.4
15	West Coast	20.3	18.6	19.8	19.2	25.1
16	Nelson Mandela Bay Metro	20.5	22.7	32.5	32.8	19.8
17	Umzinyathi	20.7	22.5	30.9	37.0	34.4
18	Zululand	21.0	28.9	34.8	43.0	37.1
19	Buffalo City	21.3	18.2	27.0	24.3	21.4
20	Alfred Nzo	21.6	18.4	20.6	17.1	18.7
21	Greater Sekhukhune	24.3	26.1	31.8	27.7	27.5
22	Nkangala	25.2	31.6	33.8	38.8	32.4
23	Sarah Baartman	25.7	38.2	35.2	30.2	28.5
24	Tshwane	26.4	22.8	28.9	24.3	20.0
25	Ekurhuleni	27.4	36.9	42.5	41.6	41.5
26	Chris Hani	27.6	28.1	31.6	47.5	34.3
27	Waterberg	27.9	25.2	31.1	41.2	36.4
28	West Rand	28.3	44.4	72.3	66.7	57.2
29	Amajuba	28.5	33.4	42.6	42.4	42.9
30	Frances Baard	28.7	24.1	26.6	41.0	31.6
31	Uthukela	29.5	31.8	37.5	46.0	41.8
32	Central Karoo	30.1	24.3	40.3	29.1	29.5
33	Johannesburg	30.2	35.3	34.5	45.4	34.8
34	Joe Qadi	30.3	50.3	48.4	60.8	45.6
35	Mopani	31.4	45.2	47.2	55.0	37.8
36	ZF Mgcawu	34.6	34.4	44.1	28.8	48.3
37	Mangaung	35.1	30.1	34.5	37.4	35.2
38	Bojanala Platinum	35.3	42.7	35.6	50.1	59.7
39	Capricorn	35.5	36.2	41.6	41.1	41.2
40	Gert Sibande	36.5	49.5	57.8	68.7	49.7
41	Ruth Segomotsi Mompati	36.8	64.8	48.5	88.1	51.2
42	Sedibeng	39.0	39.7	47.2	41.8	66.8
43	Namakwa	39.9	29.7	24.3	33.1	26.3
44	Fezile Dabi	42.2	42.1	51.0	45.4	105.1
45	John Taolo Gaetsewe	42.2	59.7	52.2	70.0	65.7
46	Tabo Mafutsanyane	43.7	51.9	54.7	61.2	68.5
47	Xhariep	43.9	126.8	90.8	93.9	82.3
48	uMgungundlovu	44.8	31.8	32.7	40.4	33.6
49	Kenneth Kaunda	47.9	38.2	44.6	58.8	61.2
50	Lejweleputswa	53.8	58.4	59.2	75.5	73.2
51	Pixley ka Seme	59.0	113.4	91.3	77.5	86.8
52	Ngaka Modiri Molema	71.3	83.2	77.8	91.8	75.1

IMR				
2017	2016	2015	2014	2013
5.2	21.5	23.5	25.5	24.3
7.4	26.1	27.6	22.8	48.9
8.2	12.6	16.7	16.9	16.2
11.4	21.2	29.7	28.7	31.6
10.8	14.1	17.3	16.1	16.5
13.6	11.8	12.6	13.2	12.1
14.0	14.4	15.3	16.6	15.1
13.7	18.7	25.6	19.5	20.1
11.9	20.4	22.2	28.5	28.7
12.8	14.0	18.7	19.9	23.5
15.9	17.5	20.3	19.4	19.2
16.2	15.9	20.9	20.4	19.3
10.8	12.8	14.4	24.4	12.0
14.3	9.5	29.8	37.4	35.8
16.3	13.3	15.8	15.4	22.2
14.5	17.7	25.7	25.5	16.9
15.7	17.8	24.1	28.7	24.7
15.2	22.1	26.2	33.8	27.0
15.3	12.7	19.7	17.9	15.4
13.5	12.1	14.1	10.3	18.7
15.7	16.9	22.6	17.3	17.2
19.2	23.9	25.1	28.0	23.4
20.3	28.8	27.7	24.2	21.7
20.4	17.4	22.3	18.5	15.1
22.2	30.1	34.0	33.4	33.7
19.7	19.9	22.6	33.8	24.5
19.8	18.3	23.3	29.4	26.2
23.0	33.0	56.5	52.0	45.0
23.6	25.5	34.4	34.8	34.4
21.4	19.2	20.1	29.3	22.8
21.3	23.8	27.9	33.4	31.4
26.6	19.1	31.6	27.4	21.0
24.1	27.7	27.4	37.7	27.9
20.0	35.7	33.5	41.6	30.5
22.5	27.5	34.6	41.3	25.4
28.7	25.9	31.1	22.1	36.7
27.9	23.3	28.1	29.0	28.1
28.9	32.3	27.1	36.2	44.5
25.8	26.6	30.2	29.1	27.6
29.1	39.5	47.1	55.9	39.3
27.6	48.6	38.9	62.6	38.1
30.7	31.6	39.0	33.6	54.0
34.0	23.1	19.6	31.1	21.7
32.9	33.2	37.2	34.0	82.1
33.4	45.8	40.3	52.6	53.0
36.5	39.7	43.1	48.2	52.0
32.0	74.2	77.7	71.0	58.8
33.2	23.1	24.5	31.1	25.1
38.8	29.9	35.4	46.3	46.1
44.4	45.4	46.0	60.4	54.1
45.9	88.0	70.3	57.4	65.6
54.3	60.0	59.5	63.3	55.9

Source: StatsSA

Table 77: District ranking by IMR: 2017

Rank	District	IMR					U5MR				
		2017	2016	2015	2014	2013	2017	2016	2015	2014	2013
1	Ugu	5.2	21.5	23.5	25.5	24.3	7.2	31.0	33.7	34.2	34.6
2	Harry Gwala	7.4	26.1	27.6	22.8	48.9	10.9	38.1	39.2	34.9	66.4
3	Umkhanyakude	8.2	12.6	16.7	16.9	16.2	11.5	17.2	21.8	22.7	23.4
4	OR Tambo	10.8	12.8	14.4	24.4	12.0	19.9	23.5	26.2	41.0	28.9
5	Ehlanzeni	10.8	14.1	17.3	16.1	16.5	16.6	21.1	26.4	23.9	26.1
6	iLembe	11.4	21.2	29.7	28.7	31.6	15.1	26.3	39.8	41.1	43.3
7	Amathole	11.9	20.4	22.2	28.5	28.7	18.5	3.3	34.6	43.5	44.4
8	Vhembe	12.8	14.0	18.7	19.9	23.5	18.6	23.8	28.2	30.5	37.2
9	Alfred Nzo	13.5	12.1	14.1	10.3	18.7	21.6	18.4	20.6	17.1	18.7
10	eThekwini	13.6	11.8	12.6	13.2	12.1	16.6	16.3	16.7	17.6	15.6
11	Overberg	13.7	18.7	25.6	19.5	20.1	17.1	24.9	29.3	22.8	23.9
12	Cape Winelands	14.0	14.4	15.3	16.6	15.1	16.7	17.9	19.6	21.1	19.2
13	King Cetshwayo	14.3	9.5	29.8	37.4	35.8	20.1	14.3	36.9	45.0	43.4
14	Nelson Mandela Bay Metro	14.5	17.7	25.7	25.5	16.9	20.5	22.7	32.5	32.8	19.8
15	Zululand	15.2	22.1	26.2	33.8	27.0	21.0	28.9	34.8	43.0	37.1
16	Buffalo City	15.3	12.7	19.7	17.9	15.4	21.3	18.2	27.0	24.3	21.4
17	Umzinyathi	15.7	17.8	24.1	28.7	24.7	20.7	22.5	30.9	37.0	34.4
18	Greater Sekhukhune	15.7	16.9	22.6	17.3	17.2	24.3	26.1	31.8	27.7	27.5
19	City of Cape Town	15.9	17.5	20.3	19.4	19.2	19.0	21.4	24.6	24.1	19.7
20	Garden Route (Eden)	16.2	15.9	20.9	20.4	19.3	19.7	17.7	24.8	25.1	22.8
21	West Coast	16.3	13.3	15.8	15.4	22.2	20.3	18.6	19.8	19.2	25.1
22	Nkangala	19.2	23.9	25.1	28.0	23.4	25.2	31.6	33.8	38.8	32.4
23	Chris Hani	19.7	19.9	22.6	33.8	24.5	27.6	28.1	31.6	47.5	34.3
24	Waterberg	19.8	18.3	23.3	29.4	26.2	27.9	25.2	31.1	41.2	36.4
25	Joe Qadi	20.0	35.7	33.5	41.6	30.5	30.3	50.3	48.4	60.8	45.6
26	Sarah Baartman	20.3	28.8	27.7	24.2	21.7	25.7	38.2	35.2	30.2	28.5
27	Tshwane	20.4	17.4	22.3	18.5	15.1	26.4	22.8	28.9	24.3	20.0
28	Uthukela	21.3	23.8	27.9	33.4	31.4	29.5	31.8	37.5	46.0	41.8
29	Frances Baard	21.4	19.2	20.1	29.3	22.8	28.7	24.1	26.6	41.0	31.6
30	Ekurhuleni	22.2	30.1	34.0	33.4	33.7	27.4	36.9	42.5	41.6	41.5
31	Mopani	22.5	27.5	34.6	41.3	25.4	31.4	45.2	47.2	55.0	37.8
32	West Rand	23.0	33.0	56.5	52.0	45.0	28.3	44.4	72.3	66.7	57.2
33	Amajuba	23.6	25.5	34.4	34.8	34.4	28.5	33.4	42.6	42.4	42.9
34	Johannesburg	24.1	27.7	27.4	37.7	27.9	30.2	35.3	34.5	45.4	34.8
35	Capricorn	25.8	26.6	30.2	29.1	27.6	35.5	36.2	41.6	41.1	41.2
36	Central Karoo	26.6	19.1	31.6	27.4	21.0	30.1	24.3	40.3	29.1	29.5
37	Ruth Segomotsi Mompati	27.6	48.6	38.9	62.6	38.1	36.8	64.8	48.5	88.1	51.2
38	Mangaung	27.9	23.3	28.1	29.0	28.1	35.1	30.1	34.5	37.4	35.2
39	ZF Mgcawu	28.7	25.9	31.1	22.1	36.7	34.6	34.4	44.1	28.8	48.3
40	Bojanala Platinum	28.9	32.3	27.1	36.2	44.5	35.3	42.7	35.6	50.1	59.7
41	Gert Sibande	29.1	39.5	47.1	55.9	39.3	36.5	49.5	57.8	68.7	49.7
42	Sedibeng	30.7	31.6	39.0	33.6	54.0	39.0	39.7	47.2	41.8	66.8
43	Xhariep	32.0	74.2	77.7	71.0	58.8	43.9	126.8	90.8	93.9	82.3
44	Fezile Dabi	32.9	33.2	37.2	34.0	82.1	42.2	42.1	51.0	45.4	105.1
45	uMgungundlovu	33.2	23.1	24.5	31.1	25.1	44.8	31.8	32.7	40.4	33.6
46	John Taolo Gaetsewe	33.4	45.8	40.3	52.6	53.0	42.2	59.7	52.2	70.0	65.7
47	Namakwa	34.0	23.1	19.6	31.1	21.7	39.9	29.7	24.3	33.1	26.3
48	Tabo Mafutsanyane	36.5	39.7	43.1	48.2	52.0	43.7	51.9	54.7	61.2	68.5
49	Kenneth Kaunda	38.8	29.9	35.4	46.3	46.1	47.9	38.2	44.6	58.8	61.2
50	Lejweleputswa	44.4	45.4	46.0	60.4	54.1	53.8	58.4	59.2	75.5	73.2
51	Pixley ka Seme	45.9	88.0	70.3	57.4	65.6	59.0	113.4	91.3	77.5	86.8
52	Ngaka Modiri Molema	54.3	60.0	59.5	63.3	55.9	71.3	83.2	77.8	91.8	75.1

Source: StatsSA

Table 78: Morbidity data by district: 2017

Province	District	NMR	IMR	U5MR	% in Hosp	% SAM	% HIV	% <24 hrs	CFR		
									GE	ARI	SAM
EC	Sarah Baartman	7.8	20.3	25.7	39.6	42.1	36.8	56.3	2.5	0.3	3.2
	Amathole	3.8	11.9	18.5	43.2	21.1	28.9	31.6	2.4	1.7	7.1
	Buffalo City	6.8	15.3	21.3	55.8				1.9	0.7	50.0
	Chris Hani	7.9	19.7	27.6	45.6	21.8	39.6	48.0	1.8	2.7	8.5
	Joe Qadi	5.0	20.0	30.3	38.2	48.0	36	40	4.9	2.9	3.2
	OR Tambo	1.9	10.8	19.9	44.4	27.7	35.6	45.9	7.3	7.4	4.7
	Alfred Nzo	5.0	13.5	21.6	21.1	16.7	36.6	44.7	5.5	5.8	5.7
	Nelson Mandela Bay Metro	6.2	14.5	20.5	55.6	21.3	28.8	25.6	2.1	3.0	0.7
FS	Xhariep	10.4	32.0	43.9	28.8	20.0	60.0	40.0	1.3	0.0	0.0
	Manguang	15.2	27.9	35.1	59.6	23.7	22.3	30.6	4.3	2.1	24.1
	Lejweleputswa	25.3	44.4	53.8	57.8	35.1	45.6	36.4	1.7	2.9	100.0
	Tabo Mafutsanyane	18.5	36.5	43.7	55.1	44.7	44.6	1.8	0.8	3.4	41.9
	Fezile Dabi	16.2	32.9	42.2	49.3	14.3	42.9	53.8	3.5	6.0	3.2
GP	Sedibeng	17.5	30.7	39.0	55.7	6.3	31.3	37.5	1.3	1.1	0.0
	West Rand	12.9	23.0	28.3	59.1	27.6	34.5	24.1	2.8	1.9	9.5
	Ekurhuleni	12.3	22.2	27.4	55.9	16.0	37.0	33.1	3.4	2.1	11.1
	Johannesburg	13.2	24.1	30.2	54.2	19.2	31.7	25.7	2.5	3.4	0.0
	Tshwane	10.6	20.4	26.4	64.3	16.1	23.9	27.5	1.3	2.9	5.3
KZN	Ugu	2.9	5.2	7.2	64.2	24.5	31.1	35.2	1.6	2.0	9.6
	uMgungundlovu	17.0	33.2	44.8	56.2	17.5	27.5	33.5	1.3	2.1	5.3
	Uthukela	10.5	21.3	29.5	52.2	37.8	33.3	37.8	1.7	2.1	0.6
	Umzinyathi	8.5	15.7	20.7	58.8	31.4	34.3	26.1	1.3	1.6	1.0
	Amajuba	12.5	23.6	28.5	49.8	35.7	42.9	32.1	0.5	2.0	6.3
	Zululand	6.5	15.2	21.0	48.8	23.8	53.8	39.2	5.0	4.7	8.8
	Umkhanyakude	4.4	8.2	11.5	61.9	22.0	40.0	32.6	1.4	3.0	3.3
	King Cetshwayo	6.8	14.3	20.1	52.2	28.2	35.5	33.6	3.3	5.5	1.2
	iLembe	7.5	11.4	15.1	66.7	20.5	27.4	46.0	1.3	1.4	2.1
	Harry Gwala	3.3	7.4	10.9	46.2	23.8	38.1	31.1	2.4	1.7	0.6
	eThekweni	36.1	57.3	69.8	65.6	28.4	38.6	40.3	2.5	2.9	7.0
LP	Mopani	10.4	22.5	31.4	44.9	39.8	32.0	45.8	3.2	3.1	3.6
	Vhembe	5.5	12.8	18.6	46.0	19.1	33.0	39.4	1.9	1.7	9.2
	Capricorn	13.0	25.8	35.5	53.2	38.1	23.9	31.0	2.1	8.0	1.3
	Waterberg	9.3	19.8	27.9	41.2	41.6	41.6	41.3	1.4	2.1	1.0
	Greater Sekhukhune	5.5	15.7	24.3	34.1	32.3	47.4	44.2	4.5	2.6	10.6
MP	Gert Sibande	15.8	29.1	36.5	52.9	6.3	33.9	36.8	1.4	1.6	1.3
	Nkangala	9.4	19.2	25.2	52.0	35.0	35.9	40.2	2.1	3.4	0.0
	Ehlanzeni	5.2	10.8	16.6	51.2	23.5	36.7	32.1	2.4	2.5	6.6
NC	Namakwa	24.2	34.0	39.9	68.9				0.0	1.1	0.0
	Pixley ka Seme	21.4	45.9	59.0	55.1	42.9	14.3	56.3	6.9	19.0	0.0
	SF Mgcau	11.9	28.7	34.6	83.6	29.3	24.4	46.4	0.6	3.8	6.7
	Frances Baard	10.1	21.4	28.7	60.5	32.3	31.5	31.3	1.8	1.4	3.5
	John Taolo Gaetsewe	17.2	33.4	42.2	79.2				2.0	2.7	0.0
NW	Bojanala Platinum	15.9	28.9	35.3	51.4	13.1	47.6	29.8	4.3	5.6	214.3
	Ngaka Modiri Molema	28.7	54.3	71.3	50.4	50.3	28.6	29.5	2.0	4.8	6.4
	Ruth Segomotsi Mompati	11.2	27.6	36.8	53.0	44.6	26.7	35.0	9.8	6.5	5.7
	Kenneth Kaunda	17.4	38.8	47.9	57.1	30.9	29.8	43.5	1.3	0.5	17.2
WC	West Coast	8.3	16.3	20.3	48.2	0.0	0.0	66.7	0.0	0.0	0.0
	Cape Winelands	6.1	14.0	16.7	49.8	57.1	19.0	52.4	0.6	0.5	0.0
	Overberg	7.0	13.7	17.1	43.8	50.0	0.0	0.0	0.8	0.4	0.0
	Garden Route (Eden)	8.2	16.2	19.7	46.2	0.0	8.3	4.2	0.4	1.4	0.0
	Central Karoo	17.2	26.6	30.1	68.6	16.7	16.7	60.0	0.6	2.8	0.0
	City of Cape Town	9.0	15.9	19.0	49.5	10.1	16.8	24.8	0.3	64.0	0.7

Source: StatsSA

Table 79: Trend in deaths occurring inside health service or within 24 hours of admission, by district: 2013 - 2017

Province	District	% In Hospital					% <24 hours				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	Sarah Baartman	36.5	26.3	34.2	39.9	39.6	57.1	61.5	18.2	50.0	56.3
	Amathole	37.1	32.7	35.4	37.1	43.2	31.9	32.1	40.1	34.3	31.6
	Buffalo City	52.1	45.4	53.4	50.0	55.8					
	Chris Hani	47.4	52.2	45.7	38.2	45.6		37.5	55.4	60.0	48.0
	Joe Qadi	36.7	36.9	33.1	36.8	38.2		66.7	75.0	60	40
	OR Tambo	30.5	50.2	45.1	33.7	44.4		43.8	45.5	45.9	45.9
	Alfred Nzo	21.4	25.2	27.6	22.3	21.1	44.8	39.1	28.0	40.4	44.7
	Nelson Mandela Bay Metro	63.0	61.9	54.9	22.2	55.6	9.1	33.9	41.2	50.0	25.6
FS	Fezile Dabi	42.6	46.8	41.1	36.6	28.8	39.3	38.6	39.7	33.3	40.0
	Lejweleputswa	44.6	44.3	48.4	51.7	59.6	45.5	40.1	36.1	26.7	30.6
	Mangaung	57.7	61.5	59.6	56.4	57.8	32.2	24.7	25.2	28.4	36.4
	Tabo Mafutsanyane	48.4	53.8	52.5	51.5	55.1	41.5	38.8	37.5	38.0	1.8
	Xhariep	39.9	23.1	38.4	40.2	49.3	38.5	22.2	0.0	41.2	53.8
GP	Sedibeng	52.3	27.3	52.8	51.0	55.7				48.0	37.5
	West Rand	50.6	24.0	47.2	48.9	59.1				31.3	24.1
	Ekurhuleni	42.7	19.4	51.1	46.4	55.9		10.0	40.3	39.6	33.1
	Johannesburg	44.4	18.0	50.0	50.5	54.2	34.3	23.0	24.3	27.0	25.7
	Tshwane	52.3	29.0	59.8	60.5	64.3	26.4	23.0	31.3	31.3	27.5
KZN	Ugu	56.8	61.1	57.7	60.7	64.2	39.6	49.3	37.4	51.7	35.2
	uMgungundlovu	51.0	54.0	54.6	52.2	56.2	26.2	30.6	25.6	27.5	33.5
	Uthukela	50.5	52.0	48.5	54.4	52.2	41.4	37.0	32.0	32.9	37.8
	Umzinyathi	54.7	61.9	56.7	57.1	58.8	37.3	17.1	34.1	29.9	26.1
	Amajuba	49.5	50.0	51.0	49.1	49.8	28.9	39.8	30.8	36.6	32.1
	Zululand	55.5	58.5	53.0	49.4	48.8	31.2	29.8	36.7	35.3	39.2
	Umkhanyakude	58.1	67.0	66.1	64.5	61.9	20.9	32.5	21.3	26.7	32.6
	King Cetshwayo	64.9	76.1	73.6	46.1	52.2	19.9	23.7	21.9	22.9	33.6
	iLembe	60.8	66.8	63.0	62.5	66.7	26.2	18.5	24.2	21.9	46.0
	Harry Gwala	56.7	36.5	57.0	55.3	46.2	23.7	37.5	26.5	44.4	31.1
	eThekweni	58.8	66.4	61.7	59.9	65.6	41.0	35.4	36.9	38.9	40.3
LP	Mopani	42.4	46.6	44.8	42.1	44.9	54.5	33.7	37.0	39.7	45.8
	Vhembe	48.6	46.0	49.9	44.4	46.0	32.1	37.3	28.1	33.3	39.4
	Capricorn	45.9	47.8	49.6	51.6	53.2	19.5	38.5	37.5	31.4	31.0
	Waterberg	47.2	46.3	40.0	40.8	41.2	32.1	37.5	48.1	48.5	41.3
	Greater Sekhukhune	37.7	36.1	39.0	37.1	34.1		28.6	39.4	38.8	44.2
MP	Gert Sibande	48.7	48.7	53.1	50.2	52.9	38.3	35.9	34.7	31.2	36.8
	Nkangala	43.4	42.4	46.6	45.9	52.0	38.3	36.4	34.6	33.9	40.2
	Ehlanzeni	51.8	55.5	52.9	51.5	51.2	32.6	29.9	31.8	32.8	32.1
NC	Namakwa	43.5	37.3	58.5	44.4	68.9	75.0	0.0			
	Pixley ka Seme	48.2	36.9	61.9	42.9	55.1	36.4	12.5		27.8	56.3
	ZF Mgcawu	48.9	39.4	76.2	36.4	83.6	27.5	28.8	19.4	52.6	46.4
	Frances Baard	40.4	46.6	58.1	37.1	60.5	32.2	22.9	38.1	26.5	31.3
	John Taolo Gaetsewe	41.7	51.9	76.0	47.3	79.2	30.0	0.0	63.6		
NW	Bojanala Platinum	39.2	38.7	45.2	43.4	51.4	24.5	28.1	38.0	24.8	29.8
	Ngaka Modiri Molema	43.9	43.0	46.1	45.7	50.4	36.5	39.5	37.5	33.9	29.5
	Ruth Segomotsi Mompati	42.9	45.0	52.0	50.2	53.0	27.9	32.9	31.0	30.4	35.0
	Kenneth Kaunda	48.2	52.7	53.3	57.0	57.1	41.2	26.2	34.5	36.2	43.5
WC	West Coast	37.1	29.2	44.5	27.3	48.2	40.0	62.5	50.0	46.2	66.7
	Cape Winelands	38.5	39.3	39.6	41.7	49.8	56.3	47.9	35.0	42.1	52.4
	Overberg	39.0	30.1	44.9	38.0	43.8	0.0	0.0	20.0	100.0	0.0
	Garden route (Eden)	45.9	43.8	47.5	48.4	46.2	44.4	33.3	18.8	25.0	4.2
	Central Karoo	57.9	29.4	45.1	28.6	68.6	66.7	100.0	75.0	25.0	60.0
	City of Cape Town	48.3	46.2	46.2	48.3	49.5	31.9	33.7	29.3	24.4	24.8

Source: StatsSA

Table 80: Trend in deaths occurring in association with severe acute malnutrition or HIV, by district: 2013 - 2017

Province	District	% SAM					% HIV				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	Sarah Baartman	47.6	23.1	36.4	66.7	42.1	33.3	15.4	54.5	16.7	36.8
	Amathole	25.5	27.4	17.6	16.2	21.1	30.9	31.0	29.6	29.5	28.9
	Buffalo City										
	Chris Hani		37.5	16.9	18.8	21.8		62.5	29.2	17.5	39.6
	Joe Qadi		66.7	25.0	40.0	48.0		16.7	25.0	13.3	36
	OR Tambo		26.6	48.0	34.4	27.7		31.3	27.3	37.7	35.6
	Alfred Nzo	31.0	13.0	33.1	34	16.7	32.8	17.4	32.0	29.8	36.6
	Nelson Mandela Bay Metro	25.0	39.0	58.8	16.7	21.3	33.3	20.3	17.6	33.3	28.8
FS	Fezile Dabi	32.3	32.3	39.7	64.7	14.3	37.1	37.0	42.5	35.3	53.8
	Lejweleputswa	37.4	40.1	55.4	46.3	35.1	35.4	42.3	31.3	38.8	45.6
	Mangaung	35.5	25.9	39.4	24.2	23.7	29.7	20.0	33.5	20.5	22.3
	Tabo Mafutsanyane	33.0	50.0	49.4	40.3	44.7	47.8	43.9	38.6	37.2	44.6
	Xhariep	46.2	44.4	66.7	33.3	20.0	46.2	11.1	0.0	66.7	60.0
GP	Sedibeng				20.0	6.3				60.0	31.3
	West Rand				20.0	27.6				37.5	34.5
	Ekurhuleni		40.0	16.7	231.0	16.0		40.0	44.4	45.2	37.0
	Johannesburg	10.3	27.1	21.1	19.4	19.2	47.1	33.5	30.3	24.8	31.7
	Tshwane	17.8	13.6	14.1	19.3	16.1	21.7	20.7	29.3	41.0	23.9
KZN	Ugu	50.0	21.3	29.9	24.0	24.5	43.8	33.3	50.5	44.8	31.1
	uMgungundlovu	29.4	18.5	16.3	15.2	17.5	36.9	42.8	31.0	31.0	27.5
	Uthukela	30.8	26.9	40.0	40.0	37.8	46.9	42.9	38.4	36.5	33.3
	Umzinyathi	33.3	57.1	24.4	18.4	31.4	37.0	51.4	35.6	33.3	34.3
	Amajuba	22.4	30.7	34.6	39.0	35.7	24.5	47.7	47.4	26.8	42.9
	Zululand	12.7	16.3	12.2	24.4	23.8	46.8	48.1	44.9	50.4	53.8
	Umkhanyakude	15.4	11.3	24.7	14.4	22.0	55.6	42.5	47.2	45.6	40.0
	King Cetshwayo	21.3	17.7	25.7	21.5	28.2	40.2	32.8	41.0	36.1	35.5
	iLembe	43.8	52.8	41.8	28.1	20.5	41.1	36.1	22.0	20.3	27.4
	Harry Gwala	43.3	36.4	44.1	33.3	23.8	49.2	33.0	42.6	29.6	38.1
	eThekweni	24.2	35.4	33.1	28.3	28.4	43.0	50.5	38.4	39.8	38.6
LP	Mopani	27.3	22.4	46.9	34.8	39.8	45.5	54.1	43.2	35.5	32.0
	Vhembe	36.1	20.1	21.6	28.6	19.1	42.4	45.1	45.0	32.5	33.0
	Capricorn	28.6	30.8	31.3	30.0	38.1	28.6	15.4	43.8	50.0	23.9
	Waterberg	58.5	43.8	46.8	48.5	41.6	47.2	46.9	44.3	37.6	41.6
	Greater Sekhukhune		42.9	30.3	43.5	32.3		28.6	51.5	44.2	47.4
MP	Gert Sibande	26.8	34.9	36.6	25.8	6.3	47.0	36.9	41.4	40.3	33.9
	Nkangala	27.9	33.3	33.0	29.1	35.0	47.3	46.8	40.8	43.3	35.9
	Ehlanzeni	30.5	33.3	32.3	26.2	23.5	46.7	42.3	47.7	46.0	36.7
NC	Namakwa	25.0	0.0				0.0	0.0			
	Pixley ka Seme	6.3	12.5		0	42.9	25.0	12.5		22.2	14.3
	ZF Mgcawu	43.5	45.8	33.9	63.2	29.3	16.1	10.2	21.0	31.6	24.4
	Frances Baard	42.5	31.4	20.4	25.5	32.3	29.5	21.3	29.2	29.4	31.5
	John Taolo Gaetsewe	63.3	60.0	0.0			50.0	60.0	9.1		
NW	Bojanala Platinum	39.6	47.1	21.9	38.1	13.1	48.8	44.6	44.5	40.0	47.6
	Ngaka Modiri Molema	46.7	53.2	60.7	58.9	50.3	38.7	27.8	32.1	27.8	28.6
	Ruth Segomotsi Mompati	42.1	53.0	50.4	54.8	44.6	37.4	31.5	38.9	28.0	26.7
	Kenneth Kaunda	42.9	55.3	41.0	31.9	30.9	37.9	38.3	42.4	37.7	29.8
WC	West Coast	14.3	12.5	5.6	231.0	0.0	14.3	31.3	0.0	7.7	0.0
	Cape Winelands	25.0	29.2	30.0	42.1	57.1	22.5	27.1	20.0	21.1	19.0
	Overberg	50.0	100.0	20.0	0.0	50.0	0.0	0.0	20.0	0.0	0.0
	Garden route (Eden)	25.0	5.6	25.0	0.0	0.0	30.0	5.6	18.8	12.5	8.3
	Central Karoo	0.0	50.0	8.3	0.0	16.7	18.2	0.0	33.3	0.0	16.7
	City of Cape Town	12.2	11.1	11.1	20.0	10.1	20.4	15.2	21.5	11.1	16.8

Source: StatsSA

Table 81: Trend in case fatality rates for gastroenteritis, pneumonia or severe acute malnutrition, by district: 2013 - 2017

Province	District	CFR GE					CFR ARI					CFR SAM				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
EC	Sarah Baartman	2.0	1.5	0.2	0.4	2.5	2.1	2.5	0.5	0.3	0.3	2.1	3.9	4.1	38.8	3.2
	Amathole	8.5	3.0	2.8	1.9	2.4	6.7	2.6	2.7	2.1	1.7	11.9	14.1	14.0	58.0	7.1
	Buffalo City	2.5	2.2	2.7	0.8	1.9	1.6	2.4	1.1	1.2	0.7	12.7	9.5	11.7	17.6	50.0
	Chris Hani	5.5	4.4	2.9	3.1	1.8	4.1	3.5	1.9	1.7	2.7	12.8	10.0	8.2	70.6	8.5
	Joe Qadi	6.2	3.0	1.7	1.9	4.9	9.2	0.5	4.5	2.1	2.9	11.7	11.3	4.4	49.0	3.2
	OR Tambo	13.2	9.6	5.8	5.5	7.3	9.9	5.3	5.3	4.7	7.4	22.6	11.6	11.0	69.8	4.7
	Alfred Nzo	13.2	7.7	5.2	5.2	5.5	8.8	6.7	4.5	3.6	5.8	19.5	18.1	11.9	58.1	5.7
FS	Nelson Mandela Bay Metro	2.3	1.4	1.6	1.3	2.1	3.9	4.7	4.5	3.3	3.0	8.2	12.6	8.5	19.0	0.7
	Fezile Dabi	2.7	2.4	0.8	1.1	3.5	5.2	3.3	3.8	6.1	6.0	15.8	20.5	8.7	55.0	3.2
	Lejweleputswa	6.0	2.7	1.9	2.6	1.7	4.1	5.1	3.2	5.2	2.9	16.8	21.5	18.1	43.1	100.0
	Mangaung	2.6	6.9	4.6	2.9	4.3	2.0	1.6	1.5	2.0	2.1	5.0	6.3	4.4	16.1	24.1
	Tabo Mafutsanyane	6.2	4.5	3.7	4.7	0.8	6.0	5.1	2.2	1.4	3.4	21.8	13.0	7.5	54.3	41.9
GP	Xhariep	1.0	0.8	0.0	0.0	1.3	1.1	0.0	1.4	2.0	0.0	14.0	9.3	2.3	8.7	0.0
	Sedibeng	5.3	2.5	1.5	1.0	1.3	6.3	3.1	2.7	1.3	1.1	10.6	11.3	13.8	17.7	0.0
	West Rand	3.5	2.9	0.5	2.4	2.8	2.8	1.3	1.4	1.2	1.9	3.3	5.7	6.0	25.0	9.5
KZN	Ekurhuleni	4.3	3.4	2.9	2.7	3.4	3.0	2.3	2.3	2.2	2.1	12.9	15.1	10.6	76.5	11.1
	Johannesburg	5.1	4.9	1.5	1.1	2.5	2.0	2.7	1.3	1.2	3.4	1.4	5.0	4.2	16.6	0.0
	Tshwane	0.5	1.8	1.7	1.6	1.3	1.1	1.6	2.1	1.7	2.9	8.2	8.2	7.4	47.4	5.3
	Ugu	4.2	2.5	1.9	1.5	1.6	2.5	2.2	5.6	1.6	2.0	14.1	9.1	8.4	20.0	9.6
	uMgungundlovu	3.4	2.5	2.3	1.5	1.3	2.4	2.1	2.6	1.2	2.1	10.0	7.0	9.4	18.7	5.3
	Uthukela	3.3	2.8	2.0	1.3	1.7	2.7	3.4	3.1	1.9	2.1	15.8	14.9	8.7	45.8	0.6
	Umzinyathi	4.5	3.8	1.6	1.7	1.3	4.1	2.4	1.9	2.5	1.6	14.8	12.4	7.9	29.8	1.0
	Amajuba	1.2	3.0	1.3	0.8	0.5	1.1	0.9	1.5	1.0	2.0	11.7	11.0	6.5	28.5	6.3
	Zululand	5.6	4.7	3.0	3.0	5.0	6.4	4.5	3.8	2.9	4.7	26.1	20.3	7.8	52.5	8.8
	Umkhanyakude	5.6	4.8	1.8	2.5	1.4	2.3	3.0	2.5	1.9	3.0	13.6	10.8	6.1	24.8	3.3
	King Cetshwayo	3.5	3.8	1.8	0.9	3.3	4.8	5.3	2.9	1.0	5.5	17.2	16.9	8.9	34.6	1.2
	iLembe	2.8	1.9	2.5	1.9	1.3	1.5	1.2	2.4	1.1	1.4	6.8	6.7	8.2	16.2	2.1
	Harry Gwala	4.8	3.1	2.4	3.2	2.4	3.4	1.8	1.8	2.3	1.7	12.7	8.7	7.7	33.4	0.6
	eThekweni	2.4	1.8	2.3	2.0	2.5	2.6	2.6	2.5	2.2	2.9	4.4	7.2	6.4	12.4	7.0
LP	Mopani	4.8	7.9	3.2	3.4	3.2	5.8	5.9	4.5	3.3	3.1	16.3	21.1	13.0	73.1	3.6
	Vhembe	4.3	3.1	2.2	1.0	1.9	3.1	3.2	2.3	1.9	1.7	13.3	15.4	13.0	41.3	9.2
	Capricorn	7.1	5.2	3.4	2.2	2.1	6.7	4.4	3.7	5.6	8.0	25.8	9.4	13.9	29.9	1.3
	Waterberg	9.3	3.8	2.7	1.8	1.4	5.9	3.9	3.3	1.8	2.1	15.3	12.3	6.9	31.5	1.0
	Greater Sekhukhune	5.3	3.8	4.0	2.7	4.5	4.8	4.5	2.9	3.5	2.6	16.6	20.7	12.9	69.4	10.6
MP	Gert Sibande	5.5	4.5	2.1	1.1	1.4	6.3	4.4	3.3	1.8	1.6	13.9	21.9	18.2	77.1	1.3
	Nkangala	5.4	4.9	2.0	0.9	2.1	3.4	5.1	2.7	2.9	3.4	10.5	15.1	9.5	79.2	0.0
	Ehlanzeni	7.3	6.1	3.5	2.4	2.4	7.4	6.0	4.7	5.1	2.5	13.9	19.2	10.7	44.1	6.6
NC	Namakwa	0.0	1.1	0.0	1.4	0.0	2.3	1.9	0.0	1.6	1.1	16.7	14.3	4.8	12.0	0.0
	Pixley ka Seme	0.8	2.5	0.3	2.2	6.9	0.0	1.6	0.5	2.3	19.0	1.7	10.0	10.5	138.4	0.0
	ZF Mgcawu	2.1	1.6	0.5	1.5	0.6	2.2	2.5	0.0	0.0	3.8	11.1	13.8	8.6	24.7	6.7
	Frances Baard	3.4	5.7	3.1	2.5	1.8	2.9	3.1	2.2	1.7	1.4	12.0	9.1	7.7	25.4	3.5
	John Taolo Gaetsewe	11.9	6.2	4.7	7.3	2.0	17.8	5.5	4.5	2.7	2.7	21.0	12.5	8.9	12.6	0.0
NW	Bojanala Platinum	6.9	6.3	5.8	3.4	4.3	6.8	4.8	4.8	3.6	5.6	18.4	18.3	15.5	58.4	214.3
	Ngaka Modiri Molema	4.7	3.6	3.6	4.0	2.0	4.3	3.8	2.8	2.3	4.8	10.3	9.9	11.3	41.0	6.4
	Ruth Segomotsi Mompati	4.2	2.3	8.1	5.2	9.8	4.7	2.8	2.9	2.8	6.5	10.2	13.9	12.7	65.9	5.7
	Kenneth Kaunda	6.0	1.3	0.7	1.9	1.3	4.6	1.5	1.8	2.2	0.5	6.9	10.7	10.5	39.8	17.2
WC	West Coast	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.7	0.0	6.3	0.0	1.2	0.0	0.0
	Cape Winelands	0.3	0.1	0.1	0.6	0.6	0.3	0.9	0.5	0.4	0.5	2.8	8.4	2.9	11.6	0.0
	Overberg	0.0	0.0	0.0	0.0	0.8	0.0	0.2	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0
	Garden route (Eden)	0.5	0.2	0.0	0.1	0.4	0.0	0.1	0.8	0.3	1.4	6.1	0.4	0.3	0.0	0.0
	Central Karoo	0.0	1.2	1.1	0.6	0.6	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
	City of Cape Town	0.1	0.1	0.2	0.2	0.3	0.8	0.4	0.3	0.4	64.0	2.9	1.5	1.0	0.0	0.7

Source: StatsSA

APPENDIX 2: RECOMMENDATIONS: ACTIVITIES AND IMPLEMENTATION RESPONSIBILITIES

The following table summarised the activities included in the recommendations identified in Chapter 6 according to the level in the health system at which responsibility for the implementation of the activity lies.

Whilst it also includes a suggestion as to the most likely position at each level who should undertake the activity it must be born in mind that ultimate responsibility lies with the accounting officer at each level.

The recommendations references in the final column are:

1. Malnutrition
2. Deaths outside the health service
3. Non-natural deaths
4. Unregistered deaths
5. Pre-hospital modifiable factors
6. Hospital modifiable factors
7. PHC services for children

LEVEL	RESPONSIBILITY	ACTIVITY	RECOMMENDATION
National - ultimate responsibility/accountability for national activities lies with the DDG responsible for MNCWH programmes			
	MNCWH and PHC Directorates	CHWs activities (scope)	2
		Undertake a national audit of PHC service delivery for children	7
		Incorporate child focussed norms and standards into the Ideal Clinic Project	7
	MNCWH Directorate / DHA	Expand role of DHA offices to include registration of deaths	4
		Explore death registration via community structures	4
	MNCWH Directorate	Multi-sectoral child safety and injury prevention policy	3
		Liaise with Department of Transport re law enforcement	3
		Work with HPCSA and Academic Paediatric Departments to achieve exit competencies in priority programmes	5
		National Working group on optimising PHC delivery for children	7
	Child Health Manager	Information campaigns	3
	PHC Programme Manager	Implementing a safe home environment	3

LEVEL	RESPONSIBILITY	ACTIVITY	RECOMMENDATION
Provincial - ultimate responsibility/accountability for provincial activities lies with the Head: Provincial Departments of Health			
	Health Promotion	Awareness of child restraints and access to car seats	3
		Educate caregivers	2 & 3
	MNCWH Programme Manager	Liaise with Community Safety to create appropriate interventions, e.g. “Walking buses”	3
		Tool for home safety checks	3
		Information to expectant mothers on requirements for birth registration	4
		Ensure in-service training in ETAT and paediatric resuscitation	6
	Hospital Management Services	Work with DHA to establish DHA offices in every hospital	4
		Ensure a provincial plan for paediatric critical care services	6
		Establish 2 functional high care beds in every children’s ward	6
District - ultimate responsibility/accountability for all activities within the district lies with the District Director / Manager			
PHC: Clinic supervisor	Onsite mentoring and monitoring	1	
DCST	ETAT training	1	
	Onsite mentoring and monitoring	1	
PHC Programme Manager	CHW screening of children under-5	1	
	CHWs activities (clinical practice)	2	
	Implement IMCI	2	
	PHC clinic pulse oximetry	2	
	IMCI / oral rehydration corners / pulse oximetry / clinic supervision	2	
	Link newborns and children to PHC and WBOTs	2	
	Educate mothers / caregivers re danger signs in RtHB	5	
	Inform mothers / caregivers of health pathways	5	
	Dietician or Nutrition Manager	CHW screening of children under-5	1
Scale up feeding programmes		1	
Promote infant nutrition		5	
Maternal Health Manager	Information to expectant mothers	3	
Health Promotion	Identify local partners for IEC campaigns	3	
EMS Manager	Establish clear referral pathway / functional EMS transfers	2	
	Efficient and effective transfer systems	2	

LEVEL	RESPONSIBILITY	ACTIVITY	RECOMMENDATION
District - ultimate responsibility/accountability for all activities within the district lies with the District Director / Manager			
	District Management Team	Address social determinants	1
	District Director / Manager	District Hospital: implement ETAT / Establish clear referral pathway / functional EMS transfers	2
		User friendly PHC clinic operating hours	2
		Engagement with Traditional health practitioners	2
		Municipal control of illegal electricity connections	3
		Ensure referral pathways and linkages are established and know by community members	5
		Establish multi-sectoral forums to identify and support vulnerable households	5
		Engage and collaborate with Traditional health practitioners	5
Facility - ultimate responsibility/accountability for all facility-based activities lies with the CEO of the facility			
	All clinicians	Educate caregivers	2 & 3
	Outreach paediatrician	Onsite mentoring and monitoring	1
	Nursing Manager	Non-rotation of IMAM trained staff	1
		Equitable allocation and non-rotation of clinical staff	6
	Medical Manager	Non-rotation of IMAM trained staff	1
		SAM clinical audits	1
		Equitable allocation and non-rotation of clinical staff	6
		Ensure effective triage systems in hospitals	6
		Ensure use of early warning scoring systems	6
		Ensure daily ward rounds in children’s wards	6
		Link newborns and children to PHC and WBOTs	2
		District Hospital: implement ETAT / Establish clear referral pathway / functional EMS transfers	2
	Facility management team	Work with DHA to establish DHA offices in every hospital	4
		Ensure outreach support to district hospitals	6

Abbreviations: CEO- Chief Executive Officer; CHW – Community Health Worker; DCST – District Clinical Specialist Team; DHA – Department of Home Affairs; EMS – Emergency Medical Services; ETAT – Emergency Triage, Assessment and Treatment; HPCSA – Health Professions Council of South Africa; IEC – Information, Education and

Communication; IMAM – Integrated Management of Acute Malnutrition; IMCI – Integrated Management of Childhood Illness; MNCWH – Maternal, Newborn, Child and Women’s Health; PHC – Primary Health Care; RtHB – Road to Health Book; ; SAM – Severe Acute Malnutrition; WBOTs – Ward Based Outreach Teams.

APPENDIX 3: PROVINCIAL AND DISTRICT PROFILES

The following tables provide an overview of each province with their respective districts with respect to the:

- Demographic profile
- Health system
- Service utilization
- Child health indicators
- Mortality profile

Whilst it is acknowledged that much of the data is imperfect it is presented with an intention to engage with available data, to facilitate its use in managing and monitoring child health services and to precipitate an improvement in the quality and completeness of the data being collected.

- StatsSA data is by calendar year.
- DHIS data for hospitals is by financial year.
- Child PIP data is by calendar year and is presented for those districts where at least one hospital is using the programme and submitting data.
- Modifiable Factors represent the 3 most common per level of care for each site.

Data sources:

Stats SA	Sources	Mid-year population estimates Mortality and causes of death in South Africa, 2013 - 2017: findings from death notification General Household survey
	Data	Socio-economic profile Demographic profile Mortality profile
DHIS	Source	District Health Information System, NDoH, 2013 – 2019
	Data	Health Systems Profile Mortality profile including In-hospital & Case Fatality Rates
Child PIP	Source	Child Healthcare Problem Identification Programme
	Data	Mortality Profile Modifiable Factors

SOUTH AFRICA

SOCIO-DEMOGRAPHIC PROFILE

Demographic Profile		RSA	E Cape	F State	Gauteng	KZN
	Total population	58 535 663	7 311 626	2 924 685	14 361 347	11 565 963
	Population density (people/km ²)	47.9	43.3	22.5	790.0	122.6
	N ^o children < 5 years	5 733 946	724 979	269 566	1 278 086	1 231 101
	N ^o children < 15 years	16 899 287	2 231 248	836 122	3 628 464	2 456 173
	% of population < 5 years	9.8	9.9	9.2	8.9	10.6
	% of population < 15 years	28.9	30.5	28.6	25.3	21.2
	Annual births	927 113	105 796	47 306	205 612	190 923
Household profile						
	% female headed households	41.3	9.8	41.7	24.6	47.4
	% children who are orphans	14.1	18.0	18.0	11.0	17.3
	% children 5 - 6 years attending ECD centre	92.4	96.1	95.9	94.5	89.5
	% children 7 - 17 years attending school	97.8	96.6	98.1	98.5	98.3
	% population > 20 years with no schooling	7.1	8.1	5.9	3.9	8.6
	% population > 20 years with no matric	56.3	91.7	60.0	41.7	53.9
	% living in formal dwelling	79.2	54.9	83.6	81.4	72.7
	% households with piped water in dwelling	44.4	33.4	37.8	60.0	81.1
	% households using electricity for lighting	90.3	85.4	93.8	89.7	88.5
	% households with flush sanitation	78.3	46.8	83.1	89.4	76.6
	% households with weekly refuse removal	61.0	41.3	69.7	83.6	47.7
	Unemployment rate	29.8	37.4	43.0	26.3	33.0
	% children living in poverty	65.4	79.6	69.9	43.8	78.6
	% children >30 mins from health facility	19.7	24.1	18.5	7.9	30.0
Health services						
	N ^o Community Health Workers	54 180	4 438	2 009	8 589	9 780
	N ^o PHC clinics	3 176	728	212	364	597
	N ^o Community Health Centres	350	41	10	42	22
	N ^o District Hospitals	255	65	32	9	39
	N ^o Regional Hospitals	46	5	4	10	13
	N ^o Tertiary/Central Hospitals	27	4	2	7	4
	N ^o Other Hospitals	469	40	30	170	92
	% Ideal PHC clinics		32.4	75.7	89.2	76.2
	Medical aid coverage	15.4	9.8	13.5	24.6	11.9
Staffing (N ^o / 100,000 population)						
	Nursing Assistants	68.3	81.6	80.6	59.2	58.9
	Enrolled nurses	62.7	50.8	39.4	68.6	93.9
	Professional nurses	144.8	170.9	89.7	131.6	168.5
	Dental practitioners	2.5	2.4	3.0	2.4	1.5
	Medical practitioners	32.0	30.8	27.7	33.7	35.8
	Medical specialists	9.7	3.0	12.5	17.2	8.2
	Total N ^o Paediatricians	1 487	81	64	537	254
	Pharmacists	11.6	25.9	13.8	11.4	8.6
	Occupational therapists	2.6	2.3	3.2	2.7	1.8
	Physiotherapists	3.0	2.6	3.1	2.6	3.2
Maternal Health						
	Antenatal 1 st visit coverage	80.8	65.6	79.2	88.9	74.9
	Antenatal 1 st visit before 20 weeks rate	68.1	61.7	65.2	64.7	73.2
	Delivery in 10 - 19 years in facility rate	12.9	16.4	11.9	6.7	17.3
	Mother postnatal visit within 6 days	75.3	67.1	72.1	75.1	74.9
	Maternal mortality ratio	105.9	106.1	168.3	122.8	88.4

Demographic Profile		Limpopo	M'langa	N West	N Cape	W Cape
	Total population	6 044 413	4 520 629	3 975 891	1 220 189	6 610 920
	Population density (people/km ²)	48.1	59.1	37.9	3.3	51.1
	N ^o children < 5 years	671 145	466 635	400 609	124 890	566 934
	N ^o children < 15 years	1 994 848	1 382 167	1 195 463	366 626	1 700 177
	% of population < 5 years	11.1	10.3	10.1	10.2	8.6
	% of population < 15 years	33.0	30.6	30.0	30.0	25.7
	Annual births	123 414	77 353	55 094	24 195	97 298
Household profile						
	% female headed households	48.8	39.7	35.2	15.1	38.0
	% children who are orphans	12.2	16.5	13.3	145.0	6.8
	% children 5 - 6 years attending ECD centre	98.6	91.8	86.8	90.0	83.9
	% children 7 - 17 years attending school	99.6	98.0	95.7	95.2	96.4
	% population > 20 years with no schooling	13.9	11.3	8.7	7.9	2.4
	% population > 20 years with no matric	64.7	57.9	63.5	65.7	54.9
	% living in formal dwelling	88.9	84.7	78.3	83.5	82.4
	% households with piped water in dwelling	13.1	29.0	44.4	43.7	76.9
	% households using electricity for lighting	90.3	88.9	89.0	88.8	96.6
	% households with flush sanitation	57.0	65.7	66.3	87.2	90.6
	% households with weekly refuse removal	21.9	39.4	54.8	61.8	86.8
	Unemployment rate	38.9	31.6	27.4	31.5	21.6
	% children living in poverty	81.2	67.5	72.2	64.6	36.6
	% children >30 mins from health facility	22.6	25.2	25.3	14.6	6.5
Health services						
	N ^o Community Health Workers	10 570	6 640	6 059	2 553	3 542
	N ^o PHC clinics	454	238	264	127	192
	N ^o Community Health Centres	26	56	47	33	73
	N ^o District Hospitals	30	23	13	11	33
	N ^o Regional Hospitals	5	3	-	1	5
	N ^o Tertiary/Central Hospitals	2	2	2	1	3
	N ^o Other Hospitals	14	25	18	8	72
	% Ideal PHC clinics	34.4	46.2	45.6	57.1	68.3
	Medical aid coverage	7.2	12.5	11.9	15.1	20.1
Staffing (N ^o / 100,000 population)						
	Nursing Assistants	83.2	37.0	78.1	82.6	79.5
	Enrolled nurses	70.4	46.3	27.5	22.9	50.0
	Professional nurses	165.2	142.1	136.0	147.0	103.2
	Dental practitioners	3.4	2.7	2.2	3.8	1.5
	Medical practitioners	24.5	26.1	25.9	42.2	38.9
	Medical specialists	1.3	22.3	3.5	2.3	25.0
	Total N ^o Paediatricians	44	24	24	21	392
	Pharmacists	21.6	8.1	8.7	17.2	18.9
	Occupational therapists	4.1	2.4	1.9	5.4	2.9
	Physiotherapists	3.4	2.5	59.0	5.9	3.0
Maternal Health						
	Antenatal 1 st visit coverage	85.7	880.0	78.1	107.3	84.1
	Antenatal 1 st visit before 20 weeks rate	67.2	75.6	69.4	63.1	70.3
	Delivery in 10 - 19 years in facility rate	15.8	14.8	13.3	18.4	11.1
	Mother postnatal visit within 6 days	98.2	67.7	88.9	65.3	57.9
	Maternal mortality ratio	111.6	92.4	137.4	71.3	66.8

CHILD HEALTH PROFILE – RSA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	71.0	74.6	81.8	83.5
Exclusively breastfed at DTP-IPV-Hib-HBV 3 rd dose	38.2	46.4	49.1	48.9
Measles 2 nd dose coverage	82.7	77.6	76.0	79.5
Vitamin A dose 12 - 59 months coverage	50.3	52.9	56.7	56.5
Infant PCR test positive around 10 weeks rate	4.3	1.3	0.9	0.7
N° of HIV +ve children on ART	536 166	2 144 664	2 125 296	2 116 144
% with viral load suppression at 12 months	63.1	66.9	66.3	64.6
% children screened at facilities for TB	0.0	45.2	79.0	87.6
Diarrhoea incidence	9.0	7.1	7.2	6.8
Diarrhoea case fatality under 5 years rate	1.9	2.1	1.7	2.4
Pneumonia incidence	34.4	29.5	27.6	23.5
Pneumonia case fatality under 5 years rate	1.9	2.1	1.7	2.4
SAM incidence	3.9	3.4	2.2	1.9
SAM case fatality under 5 year rate	8.0	7.4	7.1	7.7
Infant Mortality				
Registered deaths (StatsSA)	20 650	19 549		
Hospital deaths (DHIS)	14 422	13 877	14 500	15 102
Hospital deaths (Child PIP)	2 712	2 723	2 393	
IMR (StatsSA)	19.9	21.1		
IHMR (DHIS)	12.3	11.8	12.3	12.6
IHMR (Child PIP)	3.0	2.7	2.7	
% deaths in health service	53.7	58.5		
N° deaths in District Hospital	4 825	4 478	4 867	4 985
N° deaths in Regional Hospital	4 498	4 785	4 990	4 997
N° deaths in Tertiary/Central Hospital	4 602	4 513	4 879	4 831
Under-5 Mortality				
Registered deaths (StatsSA)	27 657	25 600		
Hospital deaths (DHIS)	16 953	16 087	16 491	16 831
Hospital deaths (Child PIP)	4 054	4 094	3 442	
U5MR (StatsSA)	26.7	27.6		
IHMR (DHIS)	4.5	4.7	4.7	5.0
IHMR (Child PIP)	2.0	1.8	1.8	
% deaths in health service	48.8	53.8		
N° deaths in District Hospital	5 792	5 122	5 604	5 646
N° deaths in Regional Hospital	5 194	5 392	5 518	5 454
N° deaths in Tertiary/Central Hospital	5 376	5 351	5 419	5 425
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.1	9.0	6.8
Tuberculosis (A15-A19)		0.6	3.3	1.2
Other bacterial diseases (A30-A49)		1.7	1.4	1.6
HIV disease (B20-B24)		0.7	1.7	0.9
Other viral diseases (B25-B34)		0.9	1.7	1.1
Malnutrition (E40-E46)		2.4	6.0	3.2
Influenza and pneumonia (J09-J18)		7.8	9.2	8.1
Perinatal conditions 9P00-P96)		43.9	0.1	33.5
Congenital Disorders (Q00-Q99)		9.0	3.5	7.7
Ill defined/Miscellaneous conditions (R00-R99)		13.7	20.2	15.3
Non-natural (V01-Y98)		3.4	22.4	7.9
Other		9.9	21.5	12.6

		2016/17	2017/18	2018/19	2019/20
Modifiable Factors					
	N° hospitals doing Child PIP	259	285	304	
	% severe malnutrition	29.5	25.6	24.0	
	% HIV Infected or Exposed	35.9	32.4	30.5	
	% Deaths within 24 hrs	34.2	34.8	33.8	
	Total MFR/death	3.4	3.1	3.1	
	MFR - Clinical Personnel	1.9	1.6	1.7	
	MFR - Administrator	0.5	0.4	0.4	
	MFR - Caregiver	1.0	1.0	1.0	
	% - Ward	26.8	26.3	26.4	
	% - A&E	21.0	20.4	22.5	
	% - Referring Facility & Transit	7.0	8.0	7.5	
	% - Clinic/OPD	11.7	11.3	11.3	
	% - Home	33.5	34.1	32.3	
Ward					
	New danger signs inadequately identified while in ward	2	2		
	Inadequate response to new danger signs	3	3	2	
	Lack of High Care / ICU facilities for children	1	1	1	
	Inadequate investigations in ward			3	
A&E/OPD					
	Inadequate response to new danger signs	1		2	
	Inadequate history taken at A&E	2	1		
	Inadequate investigations (blood, x-ray, other) at A&E	3	3	3	
	Inadequate notes on clinical care at A&E		2	1	
Referring facility					
	Inadequate referral letter from referring facility	3	3	3	
	Severity of child's condition incorrectly assessed at referring facility	1	1	2	
	No or delayed referral to higher level	2	2	1	
Clinic					
	Inadequate notes on clinical care (assess, classify, treat) at clinic	1	2		
	Danger signs missed at clinic/OPD	2	1	1	
	Child's growth problem inadequately identified or classified	3	3	2	
	Inadequate response to growth faltering or failure, at clinic/OPD			3	
Home					
	Caregiver delayed seeking care	1	1	1	
	Caregiver did not recognise danger signs/severity of illness	2	2	2	
	Child not provided with adequate (quality and/or quantity) food at home	3			
	'Traditional remedy' with negative effect on child		3	3	

EASTERN CAPE

SOCIO-DEMOGRAPHIC PROFILE

	Province	Sarah Baartman	Amathole	Chris Hani	Joe Gqab
Demographic Profile					
Total population	7 311 626	532 051	1 002 244	822 087	377 137
Population density (people/km ²)	43.3	9.1	47.5	22.6	14.7
N ^o children < 5 years	724 979	54 269	122 274	92 896	42 616
N ^o children < 15 years	2 231 248	167 064	365 819	276 221	125 587
% of population < 5 years	9.92	10.2	12.2	11.3	11.3
% of population < 15 years	30.52	31.4	36.5	33.6	33.3
Annual births	105 796	5 214	11 016	11 772	4 566
Household profile					
% female headed households	9.8	8.8	4.3	4.9	5
% children who are orphans	18.0				
% children 5 - 6 years attending ECD centre	96.1				
% children 7 - 17 years attending school	96.6				
% population > 20 years with no schooling	8.1	4.9	10.3	12.4	8.1
% population > 20 years with no matric	91.7	93.6	94.3	93.5	94.2
% living in formal dwelling	54.9	75.5	42.4	80	80.5
% households with piped water in dwelling	33.4	48.1	12.3	22.3	19.2
% households using electricity for lighting	85.4	91.4	82.7	90.1	80.2
% households with flush sanitation	46.8	87.1	55.9	56.3	69.6
% households with weekly refuse removal	41.3	83	17.4	27	34.1
Unemployment rate	37.4	24.9	42.9	39	35.4
% children living in poverty	79.6				
% children >30 mins from health facility	24.1				
Health services					
N ^o Community Health Workers	4 438	373	885	519	335
N ^o PHC clinics	728	59	144	152	52
N ^o Community Health Centres	41	3	5	7	0
N ^o District Hospitals	65	10	12	14	11
N ^o Regional Hospitals	5	0	0	1	0
N ^o Tertiary/Central Hospitals	4	0	0	0	0
N ^o Other Hospitals	40	7	2	3	0
% Ideal PHC clinics	32.4	53.2	37.2	16.4	46.2
Medical aid coverage	9.8	8.8	4.3	4.9	5
Staffing (N^o / 100,000 population)					
Nursing Assistants	81.6	58.1	74.6	90.4	81.5
Enrolled nurses	50.8	40.4	40.9	55.4	46.9
Professional nurses	170.9	168.4	147.6	198.3	162.2
Dental practitioners	2.4	3.7	2.5	2.3	2.2
Medical practitioners	30.8	21.4	10.8	21.0	19.9
Medical specialists	3.0	1.0	0.1	0.1	-
Total N ^o Paediatricians	81				
Pharmacists	25.9	41.2	16.7	17.9	16.2
Occupational therapists	2.3	4.5	1.8	2.2	2.2
Physiotherapists	2.6	3.5	1.9	2.2	1.4
Maternal Health					
Antenatal 1 st visit coverage	65.6	65.5	44.7	54.1	61.1
Antenatal 1 st visit before 20 weeks rate	61.7	69.7	75.8	69.4	62.3
Delivery in 10 - 19 years in facility rate	16.4	15	17.6	16.8	19.8
Mother postnatal visit within 6 days	67.1	71.2	80.1	72.8	73
Maternal mortality ratio	106.1	31.2	64.3	112.9	57.6

	Province	OR Tambo	Alfred Nzo	Buffalo City	Nelson Mandela
Demographic Profile					
Total population	7 311 626	1 511 733	879 284	866 514	1 320 576
Population density (people/km ²)	43.3	124.5	81.9	315.1	674.8
N ^o children < 5 years	724 979	196 525	114 307	87 518	133 378
N ^o children < 15 years	2 231 248	571 435	340 283	275 551	401 455
% of population < 5 years	9.92	13.0	13.0	10.1	10.1
% of population < 15 years	30.52	37.8	38.7	31.8	30.4
Annual births	105 796	27 935	13 495	14 878	16 920
Household profile					
% female headed households	9.8	4.2	3.8	22.4	20.4
% children who are orphans	18.0				
% children 5 - 6 years attending ECD centre	96.1				
% children 7 - 17 years attending school	96.6				
% population > 20 years with no schooling	8.1	14	9.1	4.1	2.6
% population > 20 years with no matric	91.7	93.6	94.5	86.3	88.9
% living in formal dwelling	54.9	82	83.5	69	65.1
% households with piped water in dwelling	33.4	6.4	2.9	50.2	77.3
% households using electricity for lighting	85.4	83.8	63.3	86.3	95.7
% households with flush sanitation	85.2	43.6	42.6	70.2	92.5
% households with weekly refuse removal	41.3	9	5.3	57.1	84.8
Unemployment rate	37.4	44.1	43.5	35.1	36.6
% children living in poverty	79.6				
% children >30 mins from health facility	24.1				
Health services					
N ^o Community Health Workers	4 438	1 055	558	267	429
N ^o PHC clinics	728	136	72	74	39
N ^o Community Health Centres	41	10	2	5	9
N ^o District Hospitals	65	9	6	2	1
N ^o Regional Hospitals	5	2	0	1	1
N ^o Tertiary/Central Hospitals	4	1	0	1	2
N ^o Other Hospitals	40	5	2	10	11
% Ideal PHC clinics	32.4	40.4	16.2	15.2	58.3
Medical aid coverage	9.8	4.2	3.8	22.4	20.4
Staffing (N^o / 100,000 population)					
Nursing Assistants	81.6	92.9	68.6	116.9	63.9
Enrolled nurses	50.8	63.2	33.6	71.4	45.8
Professional nurses	170.9	153.5	104.4	254.2	182.4
Dental practitioners	2.4	1.5	1.3	3.6	3.4
Medical practitioners	30.8	34.8	10.4	70.8	49.4
Medical specialists	3.0	3.6	-	8.8	30.7
Total N ^o Paediatricians	81				
Pharmacists	25.9	29.7	8.3	41.9	34.2
Occupational therapists	2.3	1.5	0.5	3.1	3.6
Physiotherapists	2.6	2.1	1.5	4.0	4.1
Maternal Health					
Antenatal 1 st visit coverage	65.6	82.6	69.5	90.2	50.6
Antenatal 1 st visit before 20 weeks rate	61.7	60.1	47.2	61.7	95.7
Delivery in 10 - 19 years in facility rate	16.4	20.4	24.6	9.3	8.2
Mother postnatal visit within 6 days	67.1	62.9	70.7	67.1	95.7
Maternal mortality ratio	106.1	143.7	75.3	150.7	88

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	63.9	68.5	71.9	76.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	32.8	46.7	50.0	48.2
Measles 2 nd dose coverage	75.2	65.8	65.1	73.5
Vitamin A dose 12 - 59 months coverage	51.9	53.5	55.2	58.2
Infant PCR test positive around 10 weeks rate	-	1.60	1.20	1.00
N ^o of HIV +ve children on ART	67 768	271 072	254 064	275 888
% with viral load suppression at 12 months	58.0	61.2	60.9	62.9
% children screened at facilities for TB	-	50.4	74.7	85.4
Diarrhoea incidence	8.8	7.7	4.9	5.6
Diarrhoea case fatality under 5 years rate	3.7	3.6	3.0	2.8
Pneumonia incidence	19.4	13.2	13.8	10.4
Pneumonia case fatality under 5 years rate	3.0	3.7	3.2	3.4
SAM incidence	3.1	0.7	0.6	0.8
SAM case fatality under 5 year rate	10.2	11.8	8.9	10.0
Infant Mortality				
Registered deaths (StatsSA)	1 741	1 517		
Hospital deaths (DHIS)	1 929	1 817	1 860	1 888
Hospital deaths (Child PIP)	193	252	310	
IMR (StatsSA)	16.9	14.4		
IHMR (DHIS)	5.4	8.0	6.7	6.5
IHMR (Child PIP)	4.2	3.8	3.8	
% deaths in health service	45.9	47.2		
N ^o deaths in District Hospital	745	713	688	745
N ^o deaths in Regional Hospital	580	642	628	572
N ^o deaths in Tertiary/Central Hospital	587	428	524	560
Under-5 Mortality				
Registered deaths (StatsSA)	2 617	2 311		
Hospital deaths (DHIS)	2 290	2 105	2 154	2 109
Hospital deaths (Child PIP)	277	386	436	
U5MR (StatsSA)	25.4	21.9		
IHMR (DHIS)	4.3	5.7	5.1	4.8
IHMR (Child PIP)	2.6	2.5	2.5	
% deaths in health service	34.2	44.0		
N ^o deaths in District Hospital	931	818	820	855
N ^o deaths in Regional Hospital	651	724	708	625
N ^o deaths in Tertiary/Central Hospital	691	528	606	618
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		5.9	7.7	6.5
Tuberculosis (A15-A19)		1.0	4.3	2.1
Other bacterial diseases (A30-A49)		1.4	0.5	1.1
HIV disease (B20-B24)		1.5	1.6	1.5
Other viral diseases (B25-B34)		1.1	1.4	1.2
Malnutrition (E40-E46)		3.6	4.8	4.0
Influenza and pneumonia (J09-J18)		9.6	6.4	8.5
Perinatal conditions 9P00-P96)		26.8	0.0	17.6
Congenital Disorders (Q00-Q99)		7.8	2.4	6.0
Ill defined/Miscellaneous conditions (R00-R99)		21.7	28.1	23.9
Non-natural (V01-Y98)		7.4	24.8	13.4
Other		12.1	18.0	14.1

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	42	51	58	
% children under-5 who died and had severe malnutrition	25.0	24.7	22.4	
% children under-5 who died and were HIV Infected or Exposed	27.2	34.7	34.3	
% Deaths within 24 hrs of admission to hospital	45.6	40.2	37.8	
Total MFR/death	5.1	3.9	3.6	
MFR - Clinical Personnel	2.9	2.1	2.0	
MFR - Administrator	0.8	0.7	0.6	
MFR - Caregiver	1.3	1.1	1.0	
% - Ward	28.7	24.3	25.4	
% - A&E	16.6	21.3	20.2	
% - Referring Facility & Transit	7.3	8.4	8.3	
% - Clinic/OPD	15.9	13.6	14.6	
% - Home	31.5	32.4	31.4	
Ward				
Inadequate investigations in ward	1	1	2	
RTHC information not present in child's folder	3			
Basic laboratory investigations not available to ward 24 hours a day		3		
Insufficient notes on clinical care in ward (assess, manage, monitor)			3	
Lack of High Care / ICU facilities for children	2	2	1	
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E	1	1	1	
Inadequate history taken at A&E	2			
Inadequate rehydration plan at A&E	3	3	2	
Results of urgent investigations not obtained at A&E		2	3	
Referring facility				
Inadequate referral letter from referring facility	3			
Severity of child's condition incorrectly assessed at referring facility	2	2	3	
No high care bed in referring facility for pre-transfer care of child		3	2	
No or delayed referral to higher level	1	1	1	
Clinic				
Child's growth problem inadequately identified or classified			3	
Insufficient investigations done at clinic/OPD		2		
Danger signs missed at clinic/OPD		3		
IMCI not used for patient assessment at clinic/OPD	2			
Inadequate notes on clinical care (assess, classify, treat) at clinic	1	1	1	
Inadequate IMCI implementation at clinic/OPD	3			
Inadequate response to growth faltering or failure, at clinic/OPD			3	
Home				
Caregiver delayed seeking care	1	1	2	
Caregiver did not recognise danger signs/severity of illness	2	2	1	
'Traditional remedy' with negative effect on child	3	3	3	

DC10 SARAH BAARTMAN

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	56.9	55.8	58.2	68.3
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	48.4	51.8	56.2	56.6
Measles 2 nd dose coverage	76.2	55.1	58.8	68.4
Vitamin A dose 12 - 59 months coverage	42.6	44.8	45.8	50.5
Infant PCR test positive around 10 weeks rate	-	3.30	0.98	1.10
N ^o of HIV +ve children on ART	3 520	14 080	13 464	14 624
% with viral load suppression at 12 months	60.5	51.0	57.7	33.3
% children screened at facilities for TB	-	46.8	69.9	80.0
Diarrhoea incidence	10.6	9.8	3.3	4.1
Diarrhoea case fatality under 5 years rate	0.6	2.5	-	0.5
Pneumonia incidence	25.4	17.2	20.1	14.9
Pneumonia case fatality under 5 years rate	0.5	0.3	0.5	0.3
SAM incidence	3.3	1.4	1.2	1.5
SAM case fatality under 5 year rate	5.1	1.2	4.5	8.0
Infant Mortality				
Registered deaths (StatsSA)	149	110		
Hospital deaths (DHIS)	67	64	54	68
Hospital deaths (Child PIP)	4	12	5	
IMR (StatsSA)	28.8	20.3		
IHMR (DHIS)	4.9	5.8	4.2	5.4
IHMR (Child PIP)	1.0	2.4	0.7	
% deaths in health service	43.6	39.1		
N ^o deaths in District Hospital	67	64	53	68
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	198	139		
Hospital deaths (DHIS)	76	71	60	80
Hospital deaths (Child PIP)	6	17	14	
U5MR (StatsSA)	38.2	25.7		
IHMR (DHIS)	2.3	2.9	2.4	2.8
IHMR (Child PIP)	0.4	1.0	0.7	
% deaths in health service	39.9	39.6		
N ^o deaths in District Hospital	76	71	59	80
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		7.3	10.3	7.9
Tuberculosis (A15-A19)		0.0	13.8	2.9
Other bacterial diseases (A30-A49)		1.8	0.0	1.4
HIV disease (B20-B24)		0.0	0.0	0.0
Other viral diseases (B25-B34)		0.0	0.0	0.0
Malnutrition (E40-E46)		2.7	6.9	3.6
Influenza and pneumonia (J09-J18)		20.0	17.2	19.4
Perinatal conditions 9P00-P96)		31.8	0.0	25.2
Congenital Disorders (Q00-Q99)		6.4	0.0	5.0
Ill defined/Miscellaneous conditions (R00-R99)		13.6	6.9	12.2
Non-natural (V01-Y98)		1.8	24.1	6.5
Other		14.5	20.7	15.8

	2016	2017	2018	2019
Modifiable Factors				
Nº hospitals doing Child PIP	5	6	9	
% children under-5 who died and had severe malnutrition	66.7	42.1	16.7	
% children under-5 who died and were HIV Infected or Exposed	16.7	36.8	22.2	
% Deaths within 24 hrs of admission to hospital	50.0	56.3	58.8	
Total MFR/death	5.0	9.3	9.0	
MFR - Clinical Personnel	2.5	6.1	5.8	
MFR - Administrator	0.2	1.6	1.8	
MFR - Caregiver	2.3	1.5	1.4	
% - Ward	23.3	14.8	20.4	
% - A&E	10.0	27.8	37.0	
% - Referring Facility & Transit	10.0	10.8	12.3	
% - Clinic/OPD	10.0	18.2	14.8	
% - Home	46.7	28.4	15.4	
Ward				
Inadequate number of doctors assigned to children's ward		1		
Inadequate number of nurses assigned to children's ward		2		
New danger signs inadequately identified while in ward	1			
Basic laboratory investigations not available to ward 24 hours a day		3		
Lack of experienced doctors (post Community Service), for children's ward			1	
Insufficient notes on clinical care in ward (assess, manage, monitor)			2	
No functioning pulse oxymeter in ward			3	
Inadequate response to new danger signs	2			
Inadequate revision of fluid, despite changing condition	3			
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E		1		
Not classified as critically ill despite presence of danger signs at A&E	1			
Inadequate assessment of dehydration at A&E	2			
Convulsions not managed according to accepted protocol at A&E	3			
Important cultures (blood, CSF, urine) not sent at A&E		3		
Inadequate physical examination at A&E			1	
Inadequate notes on clinical care at A&E			2	
No A&E staff trained in ETAT/BLS/APLS			3	
Inadequate rehydration plan at A&E		2		
Referring facility				
Child not assessed properly by ambulance crew on entry into ambulance	1			
Major complications in ambulance not identified	2			
Child not monitored correctly in ambulance	3			
Child not managed correctly in ambulance		1		
Grade of ambulance crew inappropriate for child's condition		2		
Inadequate in-transit consumables in ambulance		3		
Other clinical personnel modifiable factor in transit care			1	
Inadequate notes on transit care			2	
Inadequate ambulance service from health facility to receiving hospital			3	
Clinic				
Delay in referring other acute problem from clinic/OPD	1			
Inadequate record keeping system in clinic	2			
NONE	3			
Child's growth problem inadequately identified or classified		1		
Inadequate notes on clinical care (assess, classify, treat) at clinic		2	1	
Initiation of ART at clinic/OPD delayed - lost or delayed investigations		3		
Other clinical personnel modifiable factor at clinic/OPD			2	
RTHC inadequately documents child's health history			3	
Home				
Caregiver delayed seeking care	1	2	1	
Caregiver did not recognise danger signs/severity of illness	2	1	2	
Caregiver not advised about danger signs at previous visit	3	3		
No adult supervision at home			3	

DC12 AMATHOLE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	57.5	59.5	68.6	67.9
Exclusively breastfed at DTP-IPV-Hib-HBV 3 rd dose	34.4	46.9	56	51.3
Measles 2 nd dose coverage	64.6	58.1	62.3	63
Vitamin A dose 12 - 59 months coverage	57.6	59.6	63.7	58
Infant PCR test positive around 10 weeks rate	-	1.30	1.10	0.71
N ^o of HIV +ve children on ART	8 510	34 040	31 856	34 592
% with viral load suppression at 12 months	56.7	62.9	57.5	70.0
% children screened at facilities for TB	0	70	86.2	90.2
Diarrhoea incidence	6.6	6.3	5.7	4.0
Diarrhoea case fatality under 5 years rate	2.7	2.4	2	1.8
Pneumonia incidence	9.8	8	8.2	5.5
Pneumonia case fatality under 5 years rate	1.7	1.7	2.7	3.3
SAM incidence	1.5	0.38	0.36	0.46
SAM case fatality under 5 year rate	10.5	11.4	5.3	12.2
Infant Mortality				
Registered deaths (StatsSA)	208	122		
Hospital deaths (DHIS)	103	103	92	102
Hospital deaths (Child PIP)	60	39	71	
IMR (StatsSA)	20.4	11.9		
IHMR (DHIS)	5.2	7.8	6	6.6
IHMR (Child PIP)	4.5	3.1	5.1	
% deaths in health service	38.9	53.3		
N ^o deaths in District Hospital	102	98	89	100
N ^o deaths in Regional Hospital	0	0	0	0
N ^o deaths in Tertiary/Central Hospital	0	0	0	0
Under-5 Mortality				
Registered deaths (StatsSA)	340	190		
Hospital deaths (DHIS)	121	123	106	110
Hospital deaths (Child PIP)	83	61	96	
U5MR (StatsSA)	33.3	18.5		
IHMR (DHIS)	2.8	3.5	3	3.3
IHMR (Child PIP)	1.0	2.4	0.7	
% deaths in health service	37.1	42.2		
N ^o deaths in District Hospital	120	118	103	108
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	0	0	0	0
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		9.0	11.8	10.0
Tuberculosis (A15-A19)		0.8	4.4	2.1
Other bacterial diseases (A30-A49)		0.8	1.5	1.1
HIV disease (B20-B24)		1.6	1.5	1.6
Other viral diseases (B25-B34)		0.8	1.5	1.1
Malnutrition (E40-E46)		6.6	7.4	6.8
Influenza and pneumonia (J09-J18)		12.3	4.4	9.5
Perinatal conditions 9P00-P96)		23.8	0.0	15.3
Congenital Disorders (Q00-Q99)		13.9	0.0	8.9
Ill defined/Miscellaneous conditions (R00-R99)		10.7	23.5	15.3
Non-natural (V01-Y98)		8.2	25.0	14.2
Other		11.5	19.1	14.2

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	9	11	13	
	% children under-5 who died and had severe malnutrition	16.2	21.1	12.7	
	% children under-5 who died and were HIV Infected or Exposed	29.5	28.9	33.1	
	% Deaths within 24 hrs of admission to hospital	34.3	31.6	26.3	
	Total MFR/death	3.8	2.8	1.8	
	MFR - Clinical Personnel	2.2	1.5	0.8	
	MFR - Administrator	0.7	0.5	0.4	
	MFR - Caregiver	0.9	0.8	0.5	
	% - Ward	25.6	27.2	29.7	
	% - A&E	16.1	16.9	7.2	
	% - Referring Facility & Transit	12.7	13.1	11.5	
	% - Clinic/OPD	15.9	12.7	18.2	
	% - Home	29.8	30.0	33.5	
Ward					
	New danger signs inadequately identified while in ward	2			
	Lack of High Care and/or ICU facilities for children	1	1	1	
	Inadequate revision of fluid management plan	3			
	Danger signs missed due to inadequate monitoring in ward		2		
	Insufficient notes on clinical care in ward (assess, manage, monitor)		3		
	Other clinical personnel modifiable factor in ward			2	
	New danger signs inadequately identified while in ward			3	
A&E/OPD					
	Inadequate investigations (blood, x-ray, other) at A&E	1			
	Emergency signs not recognised at A&E	2		1	
	Child not triaged at A&E (spent time in a queue)	3			
	Priority signs not recognised at A&E		1		
	Inadequate history taken at A&E		2		
	Inadequate rehydration plan at A&E		3	2	
	Inadequate notes on clinical care at A&E			3	
Referring facility					
	Severity of child's condition incorrectly assessed at referring facility	1		2	
	Inadequate referral letter from referring facility	2			
	Inadequate ambulance service from health facility to receiving hospital	3			
	No or delayed referral to higher level		1		
	Severity of child's condition incorrectly assessed at referring facility		2		
	Referring pathway and/or procedure not followed by referring facility		3		
	Inadequate referral letter from referring facility			1	
	Delayed arrival of ambulance at referring facility			3	
Clinic					
	Inadequate response to danger signs at clinic/OPD	1			
	Inadequate notes on clinical care (assess, classify, treat) at clinic	2			
	Inadequate response to growth faltering or failure, at clinic/OPD		2	1	
	No follow up for child's nutritional problem at clinic/OPD		3		
	Child's growth problem inadequately identified or classified			2	
	Danger signs missed at clinic/OPD	3	1	3	
Home					
	Child not provided with adequate (quality and/or quantity) food at home	1	2	2	
	Caregiver did not recognise danger signs/severity of illness	2	1	1	
	Caregiver delayed seeking care	3	3		
	Other caregiver modifiable factor at home/in community			3	

DC13 CHRIS HANI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	67.3	70.3	77.0	92.2
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	31.4	44.7	56.6	46.0
Measles 2 nd dose coverage	80.5	73.7	68.1	83.8
Vitamin A dose 12 - 59 months coverage	65.1	59.4	61.7	69.3
Infant PCR test positive around 10 weeks rate	-	0.85	1.70	1.00
N ^o of HIV +ve children on ART	8 844	35 376	32 728	35 544
% with viral load suppression at 12 months	55.9	52.4	55.2	51.7
% children screened at facilities for TB	-	61.6	76.3	86.9
Diarrhoea incidence	10.8	9.4	7.8	10.3
Diarrhoea case fatality under 5 years rate	2.6	1.8	1.8	2.3
Pneumonia incidence	17.5	13.5	14.3	10.4
Pneumonia case fatality under 5 years rate	1.8	2.7	2.4	1.5
SAM incidence	4.9	0.7	0.7	1.0
SAM case fatality under 5 year rate	5.8	11.5	5.7	12.6
Infant Mortality				
Registered deaths (StatsSA)	224	228		
Hospital deaths (DHIS)	190	177	140	179
Hospital deaths (Child PIP)	58	64	90	
IMR (StatsSA)	19.9	19.7		
IHMR (DHIS)	5.3	7.2	4.1	5.4
IHMR (Child PIP)	4.2	2.2	3.7	
% deaths in health service	38.4	50.0		
N ^o deaths in District Hospital	130	94	102	86
N ^o deaths in Regional Hospital	60	82	38	92
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	317	320		
Hospital deaths (DHIS)	218	193	171	197
Hospital deaths (Child PIP)	75	90	88	
U5MR (StatsSA)	28.1	27.6		
IHMR (DHIS)	3.6	4.3	3.2	3.6
IHMR (Child PIP)	2.6	3.0	2.6	
% deaths in health service	38.2	45.6		
N ^o deaths in District Hospital	154	103	127	97
N ^o deaths in Regional Hospital	64	89	44	99
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		8.3	12.0	9.4
Tuberculosis (A15-A19)		1.8	3.3	2.2
Other bacterial diseases (A30-A49)		0.9	1.1	0.9
HIV disease (B20-B24)		2.2	2.2	2.2
Other viral diseases (B25-B34)		1.8	2.2	1.9
Malnutrition (E40-E46)		3.5	4.3	3.8
Influenza and pneumonia (J09-J18)		4.8	7.6	5.6
Perinatal conditions 9P00-P96)		33.8	0.0	24.1
Congenital Disorders (Q00-Q99)		4.8	2.2	4.1
Ill defined/Miscellaneous conditions (R00-R99)		18.4	22.8	19.7
Non-natural (V01-Y98)		7.9	20.7	11.6
Other		11.8	21.7	14.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	12	13	13	
% children under-5 who died and had severe malnutrition	18.8	21.8	16.0	
% children under-5 who died and were HIV Infected or Exposed	17.5	39.6	41.0	
% Deaths within 24 hrs of admission to hospital	60.0	48.0	46.0	
Total MFR/death	8.5	6.1	6.1	
MFR - Clinical Personnel	5.5	3.4	3.5	
MFR - Administrator	1.6	1.3	1.2	
MFR - Caregiver	1.4	1.3	1.4	
% - Ward	31.8	27.9	27.9	
% - A&E	17.0	22.2	18.7	
% - Referring Facility & Transit	6.4	11.5	10.2	
% - Clinic/OPD	19.5	13.0	15.6	
% - Home	25.4	25.4	27.7	
Ward				
Insufficient notes on clinical care in ward (assess, manage, monitor)	1			
No functioning pulse oxymeter in ward	2			
Inadequate history taken in ward	3			
Lack of High Care and/or ICU facilities for children		1	1	
Insufficient notes on clinical care in ward (assess, manage, monitor)		3		
Inadequate monitoring of IV fluids and/or drip sites			2	
Inadequate investigations in ward		2	3	
A&E/OPD				
Inadequate history taken at A&E	1	3		
Admission records incomplete or inappropriate	3			
Results of urgent investigations not obtained at A&E		1	1	
Lack of Intensive and High Care beds in own, or referral hospital			2	
Inadequate notes on clinical care at A&E	2	2	3	
Referring facility				
No or delayed referral to higher level	1		1	
Severity of child's condition incorrectly assessed at referring facility	2	3	3	
Inadequate referral letter from referring facility	3	2		
No high care bed in referring facility for pre-transfer care of child		1	2	
Inadequate referral letter from referring facility		2		
Clinic				
Inadequate notes on clinical care (assess, classify, treat) at clinic	1	1	1	
IMCI not used for patient assessment at clinic/OPD	2	2		
RTHC inadequately documents child's health history	3			
Insufficient investigations done at clinic/OPD		3		
Delayed referral of child with danger signs, from clinic/OPD			2	
Danger signs missed at clinic/OPD			3	
Home				
Caregiver delayed seeking care	1	1	2	
Caregiver did not recognise danger signs/severity of illness	2	2	1	
Insufficient notes on home circumstances or child's health history	3			
'Traditional remedy' with negative effect on child		3	3	

DC14 JOE GQABI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	62.9	64.2	63.9	66.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	25.7	34.7	38.6	41.1
Measles 2 nd dose coverage	81.8	64.0	59.4	67.6
Vitamin A dose 12 - 59 months coverage	52.2	53.8	49.4	53.9
Infant PCR test positive around 10 weeks rate	-	2.50	1.90	1.00
N ^o of HIV +ve children on ART	3 750	15 000	13 288	14 432
% with viral load suppression at 12 months	68.3	47.8	56.3	61.9
% children screened at facilities for TB	-	60.5	86.3	90.6
Diarrhoea incidence	10.6	8.9	6.9	10.0
Diarrhoea case fatality under 5 years rate	3.2	4.9	1.9	2.2
Pneumonia incidence	12.4	8.5	9.6	8.9
Pneumonia case fatality under 5 years rate	1.6	2.9	3.2	5.6
SAM incidence	5.2	1.4	1.1	1.1
SAM case fatality under 5 year rate	14.2	2.0	6.8	4.9
Infant Mortality				
Registered deaths (StatsSA)	164	95		
Hospital deaths (DHIS)	63	75	79	75
Hospital deaths (Child PIP)	10	16	14	
IMR (StatsSA)	35.7	20.0		
IHMR (DHIS)	6.6	7.4	9.4	11.0
IHMR (Child PIP)	2.6	3.5	3.7	
% deaths in health service	37.8	40.0		
N ^o deaths in District Hospital	63	75	79	75
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	231	144		
Hospital deaths (DHIS)	80	79	91	95
Hospital deaths (Child PIP)	14	23	15	
U5MR (StatsSA)	50.3	30.3		
IHMR (DHIS)	4.7	5.0	5.9	7.8
IHMR (Child PIP)	2.4	2.4	2.1	
% deaths in health service	36.8	38.2		
N ^o deaths in District Hospital	80	79	91	95
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.2	14.3	6.9
Tuberculosis (A15-A19)		1.1	2.0	1.4
Other bacterial diseases (A30-A49)		0.0	0.0	0.0
HIV disease (B20-B24)		1.1	0.0	0.7
Other viral diseases (B25-B34)		4.2	2.0	3.5
Malnutrition (E40-E46)		5.3	0.0	3.5
Influenza and pneumonia (J09-J18)		13.7	8.2	11.8
Perinatal conditions 9P00-P96)		18.9	0.0	12.5
Congenital Disorders (Q00-Q99)		4.2	0.0	2.8
Ill defined/Miscellaneous conditions (R00-R99)		28.4	34.7	30.6
Non-natural (V01-Y98)		8.4	20.4	12.5
Other		11.6	18.4	13.9

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	6	7	7	
% children under-5 who died and had severe malnutrition	40.0	48.0	33.3	
% children under-5 who died and were HIV Infected or Exposed	13.3	36.0	73.3	
% Deaths within 24 hrs of admission to hospital	60.0	40.0	35.7	
Total MFR/death	2.4	6.2	4.2	
MFR - Clinical Personnel	1.1	3.4	2.2	
MFR - Administrator	0.7	1.4	0.5	
MFR - Caregiver	0.6	1.5	1.5	
% - Ward	38.9	32.7	30.2	
% - A&E	19.4	22.4	12.7	
% - Referring Facility & Transit	8.3	3.8	0.0	
% - Clinic/OPD	2.8	12.8	12.7	
% - Home	30.6	28.2	44.4	
Ward				
RTHC information not present in child's folder	1			
Too much/too little, incorrect type of IV fluids given in ward	2			
Inadequate oxygen supply to ward	3			
Inadequate history taken in ward		1		
No functioning pulse oxymeter in ward		2		
Basic laboratory investigations not available to ward 24 hours a day		3		
Inadequate investigations in ward			1	
Inadequate response to new danger signs			2	
Inadequate revision of fluid management plan, despite changing condition			3	
A&E/OPD				
No mechanical intravenous flow controller available at A&E	1			
Inadequate paediatric resuscitation area in casualty/OPD	2			
LP result not obtained at A&E	3			
Inadequate investigations (blood, x-ray, other) at A&E		1		
No A&E staff trained in ETAT/BLS/APLS		2		
Not classified as critically ill despite presence of danger signs at A&E		3		
Inadequate investigations (blood, x-ray, other) at A&E			1	
Inadequate HIV assessment at A&E			2	
Inadequate physical examination at A&E			3	
Referring facility				
Referral pathways / procedures not clear to referring / receiving facility	1			
No or delayed referral to higher level	2			
Inappropriate care or late referral from private sector/GP	3			
No or delayed referral to higher level		1		
Delayed arrival of ambulance at referring facility		2		
Inadequate monitoring and critical care equipment in referring facility		3		
Clinic				
No clear documentation of child's HIV status at clinic/OPD	1			
Insufficient assessment for chronic illness at clinic/OPD		1		
Insufficient investigations done at clinic/OPD		2		
Inadequate response to growth faltering or failure, at clinic/OPD		3	1	
Insufficient investigations done at clinic/OPD			2	
Inadequate review of child with dehydration at clinic/OPD			3	
Home				
Inadequate transport from home to nearest health facility	1			
Caregiver did not recognise danger signs/severity of illness	2	1	3	
Caregiver delayed seeking care	3	2		
'Traditional remedy' with negative effect on child		3	2	
Child not provided with adequate (quality and/or quantity) food at home			1	

DC15 OR TAMBO

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	71.1	84.5	86.1	85.5
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	25.3	51.5	45.0	45.6
Measles 2 nd dose coverage	79.8	78.3	71.5	81.8
Vitamin A dose 12 - 59 months coverage	49.7	54.6	51.7	55.9
Infant PCR test positive around 10 weeks rate	-	3.10	1.30	1.70
N° of HIV +ve children on ART	15 670	62 680	58 720	63 760
% with viral load suppression at 12 months	59.7	66.0	66.5	70.7
% children screened at facilities for TB	-	47.2	78.5	90.4
Diarrhoea incidence	13.2	9.9	4.4	7.2
Diarrhoea case fatality under 5 years rate	6.4	7.3	5.9	4.1
Pneumonia incidence	12.6	5.9	6.1	6.6
Pneumonia case fatality under 5 years rate	5.0	7.4	5.0	4.0
SAM incidence	4.0	0.6	0.5	0.6
SAM case fatality under 5 year rate	11.9	18.6	13.1	9.2
Infant Mortality				
Registered deaths (StatsSA)	343	297		
Hospital deaths (DHIS)	754	669	750	797
Hospital deaths (Child PIP)	36	50	64	
IMR (StatsSA)	12.8	10.8		
IHMR (DHIS)	18.6	18.2	10.2	9.3
IHMR (Child PIP)	5.4	5.1	4.8	
% deaths in health service	56.0	48.1		
N° deaths in District Hospital	163	165	161	185
N° deaths in Regional Hospital	130	198	223	187
N° deaths in Tertiary/Central Hospital	461	294	365	425
Under-5 Mortality				
Registered deaths (StatsSA)	629	550		
Hospital deaths (DHIS)	930	812	882	878
Hospital deaths (Child PIP)	53	87	93	
U5MR (StatsSA)	23.5	19.9		
IHMR (DHIS)	13.1	12.4	8.3	7.2
IHMR (Child PIP)	3.8	3.7	3.4	
% deaths in health service	33.7	44.4		
N° deaths in District Hospital	220	199	192	209
N° deaths in Regional Hospital	159	221	263	212
N° deaths in Tertiary/Central Hospital	551	380	426	457
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		10.1	6.7	8.5
Tuberculosis (A15-A19)		2.0	3.2	2.5
Other bacterial diseases (A30-A49)		1.7	0.0	0.9
HIV disease (B20-B24)		2.4	2.4	2.4
Other viral diseases (B25-B34)		1.0	2.0	1.5
Malnutrition (E40-E46)		4.0	6.3	5.1
Influenza and pneumonia (J09-J18)		8.1	5.1	6.7
Perinatal conditions 9P00-P96)		13.1	0.0	7.1
Congenital Disorders (Q00-Q99)		5.1	1.6	3.5
Ill defined/Miscellaneous conditions (R00-R99)		33.3	35.6	34.4
Non-natural (V01-Y98)		6.4	24.5	14.7
Other		12.8	12.6	12.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	5	8	10	
% children under-5 who died and had severe malnutrition	34.4	27.7	37.3	
% children under-5 who died and were HIV Infected or Exposed	37.7	35.6	31.4	
% Deaths within 24 hrs of admission to hospital	45.9	45.9	42.9	
Total MFR/death	3.6	3.4	4.1	
MFR - Clinical Personnel	1.4	1.5	1.9	
MFR - Administrator	0.6	0.5	0.6	
MFR - Caregiver	1.6	1.5	1.5	
% - Ward	28.8	14.4	19.5	
% - A&E	9.6	19.6	20.2	
% - Referring Facility & Transit	6.8	1.5	6.3	
% - Clinic/OPD	17.4	17.3	14.2	
% - Home	37.4	47.2	39.8	
Ward				
RTHC information not present in child's folder	1			
Basic laboratory investigations not available to ward 24 hours a day	2			
Lack of professional nurse in children's ward 24 hours a day	3			
Inadequate number of doctors assigned to children's ward		1		
Lack of High Care and/or ICU facilities for children		2	1	
Inadequate HIV assessment in ward		3		
Inadequate monitoring of respiratory rate and/or oxygen saturation			2	
Insufficient notes on clinical care in ward (assess, manage, monitor)			3	
A&E/OPD				
Inadequate rehydration plan at A&E	1	2		
No home/community IMCI in health subdistrict	2			
Inadequate investigations (blood, x-ray, other) at A&E	3		1	
Child not triaged at A&E (spent time in a queue)		1		
Inadequate physical examination at A&E		3		
Results of urgent investigations not obtained at A&E			2	
Inadequate notes on clinical care at A&E			3	
Referring facility				
No or delayed referral to higher level	1		2	
Delayed arrival of ambulance at referring facility	2		1	
Inadequate monitoring and critical care equipment in ambulance	3			
No high care bed in referring facility for pre-transfer care of child		1		
Inadequate ambulance service from health facility to receiving hospital		2		
Severity of child's condition incorrectly assessed at referring facility		3	3	
Clinic				
Delayed referral for severe malnutrition, weight loss, or growth faltering	1	2	3	
Other caregiver modifiable factor at clinic/OPD	2			
Caregiver did not bring RTHC and/or referral letter to clinic	3			
Child's growth problem inadequately identified or classified		1	2	
Danger signs missed at clinic/OPD		3		
Inadequate response to growth faltering or failure, at clinic/OPD			1	
Home				
'Traditional remedy' with negative effect on child	1	3	2	
Caregiver delayed seeking care	2	1	3	
Caregiver did not recognise danger signs/severity of illness	3	2	1	

DC44 ALFRED NZO

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	70.7	73.9	70.9	84.7
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	38.5	47.4	56.9	59.0
Measles 2 nd dose coverage	77.7	68.6	69.0	85.5
Vitamin A dose 12 - 59 months coverage	55.4	56.8	60.4	68.5
Infant PCR test positive around 10 weeks rate	-	1.60	1.70	0.62
N° of HIV +ve children on ART	9 076	36 304	33 800	36 696
% with viral load suppression at 12 months	57.0	59.3	61.4	63.8
% children screened at facilities for TB	-	32.7	59.4	74.5
Diarrhoea incidence	7.9	6.2	5.4	5.4
Diarrhoea case fatality under 5 years rate	6.4	5.5	4.5	4.4
Pneumonia incidence	20.2	12.0	12.2	10.7
Pneumonia case fatality under 5 years rate	3.1	5.8	4.2	9.0
SAM incidence	3.3	1.0	0.8	1.1
SAM case fatality under 5 year rate	14.0	10.9	11.1	8.6
Infant Mortality				
Registered deaths (StatsSA)	165	191		
Hospital deaths (DHIS)	174	182	178	198
Hospital deaths (Child PIP)	23	33	31	
IMR (StatsSA)	12.1	13.5		
IHMR (DHIS)	12.0	13.5	8.5	9.2
IHMR (Child PIP)	7.4	5.0	2.7	
% deaths in health service	23.6	22.5		
N° deaths in District Hospital	174	180	178	198
N° deaths in Regional Hospital	-	-	-	-
N° deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	251	304		
Hospital deaths (DHIS)	230	213	219	227
Hospital deaths (Child PIP)	40	43	47	
U5MR (StatsSA)	18.4	21.6		
IHMR (DHIS)	8.8	8.3	6.0	6.3
IHMR (Child PIP)	5.1	3.3	2.7	
% deaths in health service	22.3	21.1		
N° deaths in District Hospital	230	211	219	227
N° deaths in Regional Hospital	-	-	-	-
N° deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.1	7.1	4.6
Tuberculosis (A15-A19)		0.0	4.4	1.6
Other bacterial diseases (A30-A49)		1.0	0.9	1.0
HIV disease (B20-B24)		1.0	0.0	0.7
Other viral diseases (B25-B34)		0.0	0.0	0.0
Malnutrition (E40-E46)		2.1	1.8	2.0
Influenza and pneumonia (J09-J18)		4.7	8.0	5.9
Perinatal conditions 9P00-P96)		28.3	0.0	17.8
Congenital Disorders (Q00-Q99)		2.6	0.9	2.0
Ill defined/Miscellaneous conditions (R00-R99)		46.6	48.7	47.4
Non-natural (V01-Y98)		6.3	18.6	10.9
Other		4.2	9.7	6.3

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	3	4	4	
% children under-5 who died and had severe malnutrition	34.0	16.7	19.3	
% children under-5 who died and were HIV Infected or Exposed	29.8	39.6	29.8	
% Deaths within 24 hrs of admission to hospital	40.4	44.7	47.3	
Total MFR/death	5.0	3.8	5.3	
MFR - Clinical Personnel	2.9	2.1	3.4	
MFR - Administrator	0.2	0.4	0.5	
MFR - Caregiver	1.9	1.3	1.4	
% - Ward	23.2	27.9	26.7	
% - A&E	22.4	23.0	26.4	
% - Referring Facility & Transit	1.3	1.6	3.3	
% - Clinic/OPD	8.0	9.3	14.5	
% - Home	45.1	38.3	29.0	
Ward				
Inadequate investigations in ward	1	1	1	
Inadequate monitoring of respiratory rate and/or oxygen saturation	2	3		
Inadequate daily 'Problem List' in ward	3			
Inadequate 'septic workup' in ward		2		
Insufficient notes on clinical care in ward (assess, manage, monitor)			2	
Lack of High Care and/or ICU facilities for children			3	
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E	1			
Inadequate history taken at A&E	2			
Inadequate notes on clinical care at A&E	3			
Inadequate investigations in ward		1	1	
Inadequate 'septic workup' in ward		2		
Inadequate case assessment and management at previous admission		3		
Insufficient notes on clinical care in ward (assess, manage, monitor)			2	
Lack of High Care and/or ICU facilities for children			3	
Referring facility				
Inadequate record keeping system for proper transit care	1			
Child not assessed properly by ambulance crew on entry into ambulance	2			
Inadequate referral letter from referring facility	3			
Severity of child's condition incorrectly assessed at referring facility		1		
Inadequate notes on transit care		2		
NONE		3		
Delayed arrival of ambulance at referring facility			1	
Child not managed correctly in ambulance			2	
Child not monitored correctly in ambulance			3	
Clinic				
Insufficient investigations done at clinic/OPD	1	1		
Inadequate notes on clinical care (assess, classify, treat) at clinic	2		1	
Danger signs missed at clinic/OPD	3	2		
Delayed referral of child with danger signs, from clinic/OPD		3		
RTHC inadequately documents child's health history			2	
IMCI not used for patient assessment at clinic/OPD			3	
Home				
Caregiver delayed seeking care	1	1	1	
'Traditional remedy' with negative effect on child	2	2		
Caregiver did not recognise danger signs/severity of illness	3	3		
Other caregiver modifiable factor at home/in community			2	
Inappropriate treatment given at home with negative effect on the child			3	

BUFFALO CITY METRO

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	63.7	63.0	71.1	66.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	18.9	28.2	30.4	33.5
Measles 2 nd dose coverage	77.5	62.9	65.0	64.5
Vitamin A dose 12 - 59 months coverage	51.6	49.0	55.3	53.4
Infant PCR test positive around 10 weeks rate	-	1.10	0.62	0.50
N ^o of HIV +ve children on ART	9 072	36 288	34 008	36 928
% with viral load suppression at 12 months	60.7	70.6	62.6	64.9
% children screened at facilities for TB	-	36.3	62.6	80.7
Diarrhoea incidence	5.7	4.8	2.8	3.4
Diarrhoea case fatality under 5 years rate	0.6	1.9	2.2	1.6
Pneumonia incidence	32.6	14.6	13.1	6.5
Pneumonia case fatality under 5 years rate	1.1	0.7	1.8	2.6
SAM incidence	1.9	0.3	0.3	0.3
SAM case fatality under 5 year rate	7.7	13.6	17.2	24.3
Infant Mortality				
Registered deaths (StatsSA)	183	223		
Hospital deaths (DHIS)	250	261	292	236
Hospital deaths (Child PIP)				
IMR (StatsSA)	12.7	15.3		
IHMR (DHIS)	2.0	4.5	6.5	5.0
IHMR (Child PIP)				
% deaths in health service	55.7	58.7		
N ^o deaths in District Hospital	22	20	19	21
N ^o deaths in Regional Hospital	100	97	107	80
N ^o deaths in Tertiary/Central Hospital	125	134	158	135
Under-5 Mortality				
Registered deaths (StatsSA)	262	310		
Hospital deaths (DHIS)	272	279	325	267
Hospital deaths (Child PIP)				
U5MR (StatsSA)	18.2	21.3		
IHMR (DHIS)	1.8	3.8	5.4	4.3
IHMR (Child PIP)				
% deaths in health service	50.0	55.8		
N ^o deaths in District Hospital	25	20	22	25
N ^o deaths in Regional Hospital	105	102	119	88
N ^o deaths in Tertiary/Central Hospital	139	147	176	154
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.1	3.4	3.2
Tuberculosis (A15-A19)		0.4	4.6	1.6
Other bacterial diseases (A30-A49)		0.9	0.0	0.6
HIV disease (B20-B24)		0.9	1.1	1.0
Other viral diseases (B25-B34)		1.3	1.1	1.3
Malnutrition (E40-E46)		4.0	4.6	4.2
Influenza and pneumonia (J09-J18)		12.1	3.4	9.7
Perinatal conditions 9P00-P96)		34.5	0.0	24.8
Congenital Disorders (Q00-Q99)		14.3	3.4	11.3
Ill defined/Miscellaneous conditions (R00-R99)		7.2	9.2	7.7
Non-natural (V01-Y98)		8.5	33.3	15.5
Other		12.6	35.6	19.0

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP				
	% children under-5 who died and had severe malnutrition				
	% children under-5 who died and were HIV Infected or Exposed				
	% Deaths within 24 hrs of admission to hospital				
	Total MFR/death				
	MFR - Clinical Personnel				
	MFR - Administrator				
	MFR - Caregiver				
	% - Ward				
	% - A&E				
	% - Referring Facility & Transit				
	% - Clinic/OPD				
	% - Home				
Modifiable Factors					
	Included with Amathole data				

NELSON MANDELA BAY METRO

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	54.8	58.1	60.4	66.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	46.5	53.2	58.3	50.9
Measles 2 nd dose coverage	68.7	53.4	57.6	61.3
Vitamin A dose 12 - 59 months coverage	41.3	44.8	49.6	51.8
Infant PCR test positive around 10 weeks rate	-	0.81	0.82	0.76
No of HIV +ve children on ART	9 326	37 304	36 200	39 312
% with viral load suppression at 12 months	53.0	62.7	63.3	53.4
% children screened at facilities for TB	-	50.4	77.5	86.9
Diarrhoea incidence	4.6	6.1	3.5	2.4
Diarrhoea case fatality under 5 years rate	1.6	2.1	1.1	0.4
Pneumonia incidence	29.4	28.6	30.7	21.5
Pneumonia case fatality under 5 years rate	3.2	3.0	2.4	2.6
SAM incidence	2.0	0.5	0.5	0.7
SAM case fatality under 5 year rate	8.6	4.1	0.6	8.2
Infant Mortality				
Registered deaths (StatsSA)	299	251		
Hospital deaths (DHIS)	328	286	275	233
Hospital deaths (Child PIP)	2	38	57	
IMR (StatsSA)	17.7	14.5		
IHMR (DHIS)	3.4	4.9	4.2	3.4
IHMR (Child PIP)	4.4	3.5	3.2	
% deaths in health service	57.2	55.4		
N° deaths in District Hospital	24	17	7	12
N° deaths in Regional Hospital	290	265	260	213
N° deaths in Tertiary/Central Hospital	1	-	1	-
Under-5 Mortality				
Registered deaths (StatsSA)	383	354		
Hospital deaths (DHIS)	363	335	300	255
Hospital deaths (Child PIP)	6	65	83	
U5MR (StatsSA)	22.7	20.5		
IHMR (DHIS)	2.9	3.9	3.3	2.8
IHMR (Child PIP)	3.2	2.5	2.2	
% deaths in health service	22.2	55.6		
No deaths in District Hospital	26	17	7	14
No deaths in Regional Hospital	323	312	282	226
N° deaths in Tertiary/Central Hospital	1	1	4	7
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		2.0	3.9	2.5
Tuberculosis (A15-A19)		0.8	5.8	2.3
Other bacterial diseases (A30-A49)		2.8	1.0	2.3
HIV disease (B20-B24)		1.2	2.9	1.7
Other viral diseases (B25-B34)		0.8	1.0	0.8
Malnutrition (E40-E46)		2.4	4.9	3.1
Influenza and pneumonia (J09-J18)		10.0	6.8	9.0
Perinatal conditions 9P00-P96)		31.1	0.0	22.0
Congenital Disorders (Q00-Q99)		11.2	8.7	10.5
Ill defined/Miscellaneous conditions (R00-R99)		11.2	13.6	11.9
Non-natural (V01-Y98)		10.0	31.1	16.1
Other		16.7	20.4	17.8

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	2	2	2	
% children under-5 who died and had severe malnutrition	16.7	21.3	26.0	
% children under-5 who died and were HIV Infected or Exposed	33.3	28.8	31.0	
% Deaths within 24 hrs of admission to hospital	50.0	25.6	30.0	
Total MFR/death	3.5	1.1	0.9	
MFR - Clinical Personnel	1.7	0.6	0.3	
MFR - Administrator	0.8	0.2	0.2	
MFR - Caregiver	1.0	0.3	0.4	
% - Ward	38.1	26.7	27.8	
% - A&E	28.6	14.4	15.6	
% - Referring Facility & Transit	0.0	18.9	12.2	
% - Clinic/OPD	4.8	6.7	3.3	
% - Home	28.6	33.3	41.1	
Ward				
Inadequate number of doctors assigned to children's ward	3			
Inadequate investigations in ward				
Inadequate monitoring of blood glucose in ward				
Inadequate physical examination in ward		2		
Inadequate review of child with severe dehydration				
New danger signs inadequately identified while in ward		1		
Lack of experienced doctors (post Community Service), for children's ward		3		
Inadequate response to new danger signs	2			
Other administrator modifiable factor in ward			2	
Lack of High Care / ICU facilities for children	1		1	
Other clinical personnel modifiable factor in ward			3	
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E	3			
Inadequate physical examination at A&E	2		1	
Inadequate history taken at A&E	1			
Priority signs not recognised at A&E			2	
Inadequate management of child with depressed LOC at A&E			3	
Inadequate assessment of shock at A&E		1		
Inadequate treatment of shock in A&E (fluid type, amount, rate)		2		
Priority signs not recognised at A&E		3		
Referring facility				
Inappropriate care or late referral from private sector/GP		3		
Other clinical personnel modifiable factor in transit care		2		
Emergency or priority care not provided at referring hospital			2	
Inadequate referral letter from referring facility			3	
No or delayed referral to higher level		1	1	
Clinic				
Inadequate response to danger signs at clinic/OPD	1			
Inadequate response to HIV classification		1		
Inadequate assessment for HIV (IMCI not used)			1	
No follow up for child's nutritional problem			2	
Inadequate assessment for household TB contact		2		
Child with danger signs not monitored at		3		
Home				
Caregiver delayed seeking care	2	1	1	
Caregiver did not recognise danger signs/severity of illness	1	2	2	
Caregiver unaware of child's health history	3			
Inappropriate treatment given at home with negative effect on the child			3	
'Traditional remedy' with negative effect on child		3		

FREE STATE

SOCIO-DEMOGRAPHIC PROFILE

	Province	Xhariep	Mangaung	Lejwele putswa	T Mafut sanyane	Fezile Dabi
Demographic Profile						
Total population	2 924 685	155 470	787 012	677 694	796 990	507 519
Population density (people/km ²)	22.5	4.5	22.5	21.0	24.3	24.6
N° children < 5 years	269 566	13 059	70 831	62 348	80 496	45 677
N° children < 15 years	836 122	41 200	211 706	187 721	239 894	138 045
% of population < 5 years	9.2	8.4	9.0	9.2	10.1	9.0
% of population < 15 years	28.6	26.5	26.9	27.7	30.1	27.2
Annual births	47 306	1 511	15 809	9 288	13 043	7 655
Household profile						
% female headed households	41.7	37.6	41.4	39.4	46.3	39.5
% children who are orphans	18.0					
% children < 5 years attending ECD centre	95.9					
% children 7 - 17 years attending school	98.1					
% population > 20 years with no schooling	5.9	23.4	11.0	10.9	15.5	15.0
% population > 20 years with no matric	60.0	73.8	67.2	69.7	70.6	68.6
% living in formal dwelling	83.6	89.2	87.1	83.2	77.7	85.7
% households with piped water in dwelling	37.8	34.7	38.2	43.5	25.6	48.3
% households using electricity for lighting	93.8	94.7	95.7	94.2	92.0	92.5
% households with flush sanitation	83.1	86.5	68.6	82.6	57.3	
% households with weekly refuse removal	69.7	67.7	78.9	72.1	48.8	82.6
Unemployment rate	43.0	35.6	27.7	36.5	35.1	33.9
% children living in poverty	69.9					
% children >30 mins from health facility	18.5					
Health services						
N° Community Health Workers	2 009	235	390	340	585	459
N° PHC clinics	212	16	45	43	72	36
N° Community Health Centres	10	1	2	1	1	5
N° District Hospitals	32	4	3	5	9	4
N° Regional Hospitals	4	-	-	1	2	1
N° Tertiary/Central Hospitals	2	-	2	-	-	-
N° Other Hospitals	30	-	15	7	4	4
% Ideal PHC clinics	75.7	100.0	63.0	61.4	94.5	61.9
Medical aid coverage	13.5	10.5	13.5	12.0	9.2	13.2
Staffing (N° / 100,000 population)						
Nursing Assistants	80.6	84.8	169.0	30.9	53.1	60.4
Enrolled nurses	39.4	37.4	58.8	40.7	22.8	33.1
Professional nurses	89.7	69.0	161.2	70.8	60.2	62.0
Dental practitioners	3.0	5.0	3.7	1.8	2.9	2.5
Medical practitioners	27.7	23.0	46.5	18.3	22.4	23.4
Medical specialists	12.5		45.1	1.2	2.3	0.9
Total N° Paediatricians	64					
Pharmacists	13.8	23.0	112.0	48.0	66.0	48.0
Occupational therapists	3.2	5.0	28.0	6.0	6.0	4.0
Physiotherapists	3.1	1.0	27.0	4.0	11.0	4.0
Maternal Health						
Antenatal 1 st visit coverage	79.2	89.2	76.6	80.1	81.0	78.2
Antenatal 1 st visit before 20 weeks rate	65.2	74.7	63.4	65.6	63.7	67.8
Delivery in 10 - 19 years in facility rate	11.9	16.0	10.1	12.1	13.3	13.1
Mother postnatal visit within 6 days	72.1	179.0	63.7	72.9	75.0	72.1
Maternal mortality ratio	168.3	97.9	128.4	229.9	189.8	141.5

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	68.8	71.2	75.0	77.0
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	46.1	53.8	53.8	53.6
Measles 2 nd dose coverage	86.2	69.2	72.0	73.2
Vitamin A dose 12 - 59 months coverage	47.1	47.9	51.3	52.1
Infant PCR test positive around 10 weeks rate	-	1.3	1.1	0.7
N ^o of HIV +ve children on ART	30 938	123 752	115 568	126 544
% with viral load suppression at 12 months	71.5	73.9	71.7	62.2
% children screened at facilities for TB	-	76.7	104.6	109.4
Diarrhoea incidence	13.2	4.5	9.2	8.5
Diarrhoea case fatality under 5 years rate	2.8	2.5	1.1	1.0
Pneumonia incidence	40.0	29.9	33.5	31.8
Pneumonia case fatality under 5 years rate	3.2	2.9	1.7	2.0
SAM incidence	4.8	4.2	5.0	5.8
SAM case fatality under 5 year rate	9.6	7.5	6.2	5.8
Infant Mortality				
Registered deaths (StatsSA)	1 445	1 608		
Hospital deaths (DHIS)	750	819	966	932
Hospital deaths (Child PIP)	209	164	101	
IMR (StatsSA)	31.5	34.5		
IHMR (DHIS)	8.3	9.4	8.8	8.2
IHMR (Child PIP)	4.0	3.3	3.6	
% deaths in health service	60.7	58.5		
N ^o deaths in District Hospital	173	151	158	132
N ^o deaths in Regional Hospital	373	413	510	482
N ^o deaths in Tertiary/Central Hospital	204	232	279	272
Under-5 Mortality				
Registered deaths (StatsSA)	2 135	1 985		
Hospital deaths (DHIS)	853	916	1 080	1 031
Hospital deaths (Child PIP)	319	238	140	
U5MR (StatsSA)	46.5	42.6		
IHMR (DHIS)	5.5	6.2	5.9	5.5
IHMR (Child PIP)	2.5	2.2	2.5	
% deaths in health service	49.8	55.4		
N ^o deaths in District Hospital	212	187	183	161
N ^o deaths in Regional Hospital	418	443	559	512
N ^o deaths in Tertiary/Central Hospital	223	259	309	304
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		5.7	9.0	6.3
Tuberculosis (A15-A19)		0.4	3.2	0.9
Other bacterial diseases (A30-A49)		1.4	0.5	1.2
HIV disease (B20-B24)		1.2	3.4	1.6
Other viral diseases (B25-B34)		1.3	2.9	1.6
Malnutrition (E40-E46)		4.9	10.3	5.9
Influenza and pneumonia (J09-J18)		7.8	10.9	8.4
Perinatal conditions 9P00-P96)		45.2	0.3	36.7
Congenital Disorders (Q00-Q99)		9.5	3.7	8.4
Ill defined/Miscellaneous conditions (R00-R99)		11.1	16.7	12.1
Non-natural (V01-Y98)		3.0	21.0	6.4
Other		8.6	18.0	10.4

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	259	285	304	
% children under-5 who died and had severe malnutrition	35.5	30.9	31.9	
% children under-5 who died and were HIV Infected or Exposed	30.8	34.4	34.3	
% Deaths within 24 hrs of admission to hospital	31.6	36.7	37.2	
Total MFR/death	3.6	2.9	2.6	
MFR - Clinical Personnel	2.2	1.6	1.6	
MFR - Administrator	0.4	0.3	0.2	
MFR - Caregiver	0.9	1.0	0.8	
% - Ward	23.0	26.2	26.0	
% - A&E	16.6	16.0	22.8	
% - Referring Facility & Transit	14.1	11.5	10.1	
% - Clinic/OPD	12.8	9.2	8.4	
% - Home	33.5	37.1	32.7	
Ward				
Inadequate number of doctors assigned to children`s ward				
Insufficient notes on clinical care in ward (assess, manage, monitor)	1	3	2	
Inadequate history taken in ward	2	2		
Inadequate number of nurses assigned to children`s ward	3			
New danger signs inadequately identified while in ward		1		
Inadequate investigations in ward			3	
Lack of High Care / ICU facilities for children			1	
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E		2		
Priority signs not recognised at A&E		3	3	
Inadequate history taken at A&E	3	1	2	
Not classified as critically ill despite presence of danger signs at A&E	2		1	
Inadequate notes on clinical care at A&E	1			
Referring facility				
Inadequate referral letter from referring facility		2		
Emergency or priority care not provided at referring hospital	3		3	
Severity of child`s condition incorrectly assessed at referring facility	2	3	1	
Inadequate notes on transit care				
No or delayed referral to higher level	1	1	2	
Clinic				
Child`s growth problem inadequately identified or classified	1	2	1	
Inadequate notes on clinical care (assess, classify, treat) at clinic	3			
Danger signs missed at clinic/OPD		1		
Delayed referral for severe malnutrition, weight loss, or growth faltering			2	
Inadequate response to growth faltering or failure, at clinic/OPD	2	3	3	
Home				
Caregiver delayed seeking care	1	1	2	
Caregiver did not recognise danger signs/severity of illness	2	2	3	
Child not provided with adequate (quality and/or quantity) food at home	3	3	1	

DC16 XHARIEP

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	82.8	87.3	90.1	87.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	46.3	46.0	62.1	59.2
Measles 2 nd dose coverage	121.1	95.8	92.9	89.3
Vitamin A dose 12 - 59 months coverage	77.3	72.9	72.1	74.5
Infant PCR test positive around 10 weeks rate	-	0.68	0.90	0.89
N ^o of HIV +ve children on ART	1 192	4 768	4 672	5 112
% with viral load suppression at 12 months	51.4	53.3	61.1	45.5
% children screened at facilities for TB	-	78.0	156.7	155.4
Diarrhoea incidence	6.1	5.8	20.4	16.8
Diarrhoea case fatality under 5 years rate	-	1.3	1.1	1.5
Pneumonia incidence	75.1	38.6	54.3	46.4
Pneumonia case fatality under 5 years rate	1.8	-	0.9	1.7
SAM incidence	8.1	4.7	11.3	8.4
SAM case fatality under 5 year rate	2.4	3.6	0.4	1.2
Infant Mortality				
Registered deaths (StatsSA)	96	43		
Hospital deaths (DHIS)	5	9	8	8
Hospital deaths (Child PIP)	209	164	101	
IMR (StatsSA)	74.2	32.0		
IHMR (DHIS)	2.9	3.1	1.4	1.3
IHMR (Child PIP)	1.5	1.3	2.6	
% deaths in health service	54.2	27.9		
N ^o deaths in District Hospital	5	9	8	8
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	164	59		
Hospital deaths (DHIS)	6	11	12	13
Hospital deaths (Child PIP)	319	238	140	
U5MR (StatsSA)	126.8	43.9		
IHMR (DHIS)	1.3	1.8	1.1	1.2
IHMR (Child PIP)	0.7	1.0	1.5	
% deaths in health service	40.2	22.8		
N ^o deaths in District Hospital	6	11	12	13
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		14.0	6.3	11.9
Tuberculosis (A15-A19)		0.0	0.0	0.0
Other bacterial diseases (A30-A49)		0.0	0.0	0.0
HIV disease (B20-B24)		7.0	0.0	5.1
Other viral diseases (B25-B34)		4.7	6.3	5.1
Malnutrition (E40-E46)		2.3	6.3	3.4
Influenza and pneumonia (J09-J18)		11.6	12.5	11.9
Perinatal conditions 9P00-P96)		20.9	0.0	15.3
Congenital Disorders (Q00-Q99)		9.3	0.0	6.8
Ill defined/Miscellaneous conditions (R00-R99)		18.6	25.0	20.3
Non-natural (V01-Y98)		2.3	37.5	11.9
Other		9.3	6.3	8.5

		2016	2017	2018	2019
Modifiable Factors					
	N ^o hospitals doing Child PIP	3	3		
	% children under-5 who died and had severe malnutrition	33.3	20.0		
	% children under-5 who died and were HIV Infected or Exposed	66.7	60.0		
	% Deaths within 24 hrs of admission to hospital	33.3	40.0		
	Total MFR/death	5.3	0.6		
	MFR - Clinical Personnel	3.8	0.0		
	MFR - Administrator	0.7	0.0		
	MFR - Caregiver	0.8	0.6		
	% - Ward	46.9	0.0		
	% - A&E	31.3	0.0		
	% - Referring Facility & Transit	3.1	0.0		
	% - Clinic/OPD	6.3	0.0		
	% - Home	12.5	100.0		
Ward					
	Lack of experienced doctors (post Community Service), for children's ward	1			
	Inadequate review of child with severe dehydration	2			
	New danger signs inadequately identified while in ward	3			
A&E/OPD					
	Not classified as critically ill despite presence of danger signs at A&E	1			
	Lack of experienced doctors at A&E	2			
	Emergency signs not recognised at A&E	3			
Referring facility					
	Inadequate notes on transit care	1			
Clinic					
	IMCI not used for patient assessment at clinic/OPD	1			
	IMCI not used for case management at clinic/OPD	2			
Home					
	Caregiver delayed seeking care	1	1		
	Caregiver did not recognise danger signs/severity of illness	2	2		
	Child not provided with adequate (quality and/or quantity) food at home	3			

DC18 LEJWELEPUTSWA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	64.5	65.0	70.9	75.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	50.9	57.8	54.6	48.1
Measles 2 nd dose coverage	86.1	66.3	68.2	68.6
Vitamin A dose 12 - 59 months coverage	49.7	52.1	56.9	52.8
Infant PCR test positive around 10 weeks rate	-	1.3	0.8	0.6
N ^o of HIV +ve children on ART	8 702	34 808	30 256	33 136
% with viral load suppression at 12 months	67.3	68.1	67.0	57.9
% children screened at facilities for TB	-	75.8	110.3	106.9
Diarrhoea incidence	10.8	3.2	19.1	17.5
Diarrhoea case fatality under 5 years rate	2.7	1.7	1.4	0.7
Pneumonia incidence	25.4	23.1	21.5	25.7
Pneumonia case fatality under 5 years rate	4.6	2.9	0.9	1.3
SAM incidence	3.9	3.9	5.7	5.4
SAM case fatality under 5 year rate	15.8	10.3	13.2	9.9
Infant Mortality				
Registered deaths (StatsSA)	431	428		
Hospital deaths (DHIS)	229	227	253	228
Hospital deaths (Child PIP)	45	33	15	
IMR (StatsSA)	45.4	44.4		
IHMR (DHIS)	13.0	11.6	12.1	10.1
IHMR (Child PIP)	5.3	3.6	3.3	
% deaths in health service	55.0	59.1		
N ^o deaths in District Hospital	62	56	58	38
N ^o deaths in Regional Hospital	167	171	194	189
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	555	519		
Hospital deaths (DHIS)	262	247	286	249
Hospital deaths (Child PIP)	64	51	18	
U5MR (StatsSA)	58.4	53.8		
IHMR (DHIS)	9.0	8.3	9.2	7.3
IHMR (Child PIP)	3.5	2.8	2.1	
% deaths in health service	51.7	57.8		
N ^o deaths in District Hospital	77	66	70	51
N ^o deaths in Regional Hospital	185	181	215	197
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.8	14.3	8.1
Tuberculosis (A15-A19)		0.7	2.2	1.0
Other bacterial diseases (A30-A49)		1.4	1.1	1.3
HIV disease (B20-B24)		0.2	3.3	0.8
Other viral diseases (B25-B34)		0.5	2.2	0.8
Malnutrition (E40-E46)		4.0	13.2	5.6
Influenza and pneumonia (J09-J18)		10.5	15.4	11.4
Perinatal conditions 9P00-P96)		50.9	0.0	42.0
Congenital Disorders (Q00-Q99)		4.9	2.2	4.4
Ill defined/Miscellaneous conditions (R00-R99)		11.9	15.4	12.5
Non-natural (V01-Y98)		2.6	19.8	5.6
Other		5.6	11.0	6.6

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	6	6	6	
% children under-5 who died and had severe malnutrition	46.3	35.1	55.0	
% children under-5 who died and were HIV Infected or Exposed	38.8	45.6	30.0	
% Deaths within 24 hrs of admission to hospital	28.4	36.4	50.0	
Total MFR/death	7.2	3.9	4.7	
MFR - Clinical Personnel	5.7	1.9	2.7	
MFR - Administrator	0.8	0.6	0.7	
MFR - Caregiver	0.8	1.3	1.4	
% - Ward	22.5	17.3	21.3	
% - A&E	21.9	10.9	23.4	
% - Referring Facility & Transit	18.6	14.5	8.5	
% - Clinic/OPD	15.3	13.2	16.0	
% - Home	21.9	44.1	30.9	
Ward				
Insufficient notes on clinical care in ward (assess, manage, monitor)	1		3	
Inadequate history taken in ward	2	1		
Inadequate number of nurses assigned to children's ward	3			
Inadequate investigations in ward		2	2	
Inadequate number of doctors assigned to children's ward		3		
Lack of High Care and/or ICU facilities for children			1	
A&E/OPD				
Lack of Intensive and High Care beds in own, or referral hospital		3		
Insufficient professional nurses allocated to A&E		2		
Inadequate history taken at A&E	2	1		
Inadequate notes on clinical care at A&E	1			
Not classified as critically ill despite presence of danger signs at A&E			1	
Priority signs not recognised at A&E			2	
Inadequate investigations (blood, x-ray, other) at A&E			3	
Inadequate physical examination at A&E	3			
Referring facility				
Inadequate notes on clinical care (assessment, management, monitoring)	1			
Inadequate history taken at A&E	2	1		
Inadequate physical examination at A&E	3			
Insufficient professional nurses allocated to A&E		2		
Lack of Intensive and High Care beds in own, or referral hospital		3		
Not classified as critically ill despite presence of danger signs at A&E			1	
Priority signs not recognised at A&E			2	
Inadequate investigations (blood, x-ray, other) at A&E			3	
Clinic				
Inadequate notes on clinical care (assess, classify, treat) at clinic	1			
Child's growth problem inadequately identified or classified	2	1	1	
RTHC inadequately documents child's health history	3			
Inadequate response to growth faltering or failure, at clinic/OPD		2		
Danger signs missed at clinic/OPD		3		
Delayed referral for severe malnutrition, weight loss, or growth faltering			2	
INH prophylaxis not initiated in child with household TB contact			3	
Home				
Caregiver delayed seeking care	2	1	3	
Insufficient notes on home circumstances or child's health history	1			
Caregiver not advised about danger signs at previous visit	3			
Caregiver did not recognise danger signs/severity of illness		2	2	
Child not provided with adequate (quality and/or quantity) food at home			1	
'Traditional remedy' with -ve effect on child		3		

DC19 THABO MAFUTSANYANE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	70.0	69.8	71.8	76.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	48.6	53.1	52.3	52.8
Measles 2 nd dose coverage	94.3	73.2	77.9	76.3
Vitamin A dose 12 - 59 months coverage	40.2	43.4	46.7	47.2
Infant PCR test positive around 10 weeks rate	-	1.5	1.1	0.6
N ^o of HIV +ve children on ART	6 796	27 184	26 800	29 344
% with viral load suppression at 12 months	76.2	74.1	69.5	59.5
% children screened at facilities for TB	-	79.5	98.9	110.1
Diarrhoea incidence	13.4	4.2	4.8	6.4
Diarrhoea case fatality under 5 years rate	2.8	4.3	0.8	1.1
Pneumonia incidence	59.3	47.2	57.6	53.2
Pneumonia case fatality under 5 years rate	1.6	2.1	1.1	2.1
SAM incidence	7.3	6.5	5.4	9.2
SAM case fatality under 5 year rate	5.7	4.5	4.7	6.4
Infant Mortality				
Registered deaths (StatsSA)	495	462		
Hospital deaths (DHIS)	213	269	311	331
Hospital deaths (Child PIP)	76	55	43	
IMR (StatsSA)	39.7	36.5		
IHMR (DHIS)	6.4	8.0	7.2	7.8
IHMR (Child PIP)	5.2	4.1	4.9	
% deaths in health service	53.5	58.4		
N ^o deaths in District Hospital	9	18	16	17
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	204	232	279	272
Under-5 Mortality				
Registered deaths (StatsSA)	647	554		
Hospital deaths (DHIS)	234	303	353	373
Hospital deaths (Child PIP)	117	71	57	
U5MR (StatsSA)	51.9	43.7		
IHMR (DHIS)	4.7	5.7	5.4	5.6
IHMR (Child PIP)	3.4	2.4	3.0	
% deaths in health service	51.5	55.1		
N ^o deaths in District Hospital	11	21	20	19
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	223	259	309	304
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.3	17.4	8.1
Tuberculosis (A15-A19)		0.2	2.2	0.5
Other bacterial diseases (A30-A49)		1.5	0.0	1.3
HIV disease (B20-B24)		1.5	5.4	2.2
Other viral diseases (B25-B34)		2.4	3.3	2.5
Malnutrition (E40-E46)		6.7	9.8	7.2
Influenza and pneumonia (J09-J18)		8.0	15.2	9.2
Perinatal conditions 9P00-P96)		45.2	1.1	37.9
Congenital Disorders (Q00-Q99)		8.4	1.1	7.2
Ill defined/Miscellaneous conditions (R00-R99)		5.4	5.4	5.4
Non-natural (V01-Y98)		4.5	17.4	6.7
Other		9.7	21.7	11.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	9	9	9	
% children under-5 who died and had severe malnutrition	40.3	44.7	31.3	
% children under-5 who died and were HIV Infected or Exposed	37.2	44.7	39.1	
% Deaths within 24 hrs of admission to hospital	38	44.6	46.9	
Total MFR/death	2.7	1.8	1.2	
MFR - Clinical Personnel	1.3	0.9	0.6	
MFR - Administrator	0.3	0.1	0.1	
MFR - Caregiver	1.1	0.8	0.5	
% - Ward	22.5	25.5	21.5	
% - A&E	16.2	16.1	20.3	
% - Referring Facility & Transit	7.4	8.8	8.9	
% - Clinic/OPD	8.8	2.9	3.8	
% - Home	45.0	46.7	45.6	
Ward				
Inadequate revision of fluid management plan, despite child's changing condition	1			
Inadequate history taken in ward	2	1		
Insufficient notes on clinical care in ward (assess, manage, monitor)	3			
New danger signs inadequately identified while in ward		2		
Inadequate review of severe ARI in ward		3		
Other clinical personnel modifiable factor in ward			1	
Danger signs missed due to inadequate monitoring in ward			2	
Insufficient notes on clinical care in ward (assess, manage, monitor)			3	
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E	1			
Lack of experienced doctors at A&E	2			
Inadequate history taken at A&E	3			
Admission records incomplete or inappropriate		1		
Blood glucose not monitored in child with danger signs at A&E		3		
Accompanying caregiver knew little about the child at A&E			1	
Emergency signs not recognised at A&E			2	
Inadequate notes on clinical care at A&E		2	3	
Referring facility				
No or delayed referral to higher level	1	1	1	
Severity of child's condition incorrectly assessed at referring facility	2		2	
Emergency or priority care not provided at referring hospital	3	2		
Inadequate notes on transit care		3		
Inadequate referral letter from referring facility			3	
Clinic				
Inadequate response to growth faltering or failure, at clinic/OPD	1			
IMCI not used for patient assessment at clinic/OPD	2			
Delayed or lost laboratory results (especially HIV) at clinic/OPD	3			
Delayed referral of child with danger signs, from clinic/OPD		1	1	
Possible serious bacterial infection (PSBI) not considered at clinic/OPD		2		
Inadequate assesment for HIV (IMCI not used) at clinic/OPD		3		
No documentation of mother's antenatal HIV status			2	
Caregiver did not bring RTHC and/or referral letter to clinic			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness			3	
Child not provided with adequate (quality and/or quantity) food at home	2	3	2	
'Traditional remedy' with -ve effect on child	3	2		

DC20 FEZILE DABI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	69.4	77.4	81.2	80.5
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	47.8	61.2	52.3	60.7
Measles 2 nd dose coverage	84.7	68.7	72.4	75.5
Vitamin A dose 12 - 59 months coverage	51.9	50.8	57.0	61.8
Infant PCR test positive around 10 weeks rate	-	1.40	2.10	0.39
N ^o of HIV +ve children on ART	4 528	18 112	17 152	18 784
% with viral load suppression at 12 months	60.7	77.3	71.6	74.3
% children screened at facilities for TB	-	76.9	106.6	111.5
Diarrhoea incidence	16.7	5.1	6.3	4.7
Diarrhoea case fatality under 5 years rate	0.6	3.5	2.5	1.5
Pneumonia incidence	25.2	18.4	19.4	13.0
Pneumonia case fatality under 5 years rate	7.3	6.0	5.4	4.1
SAM incidence	2.8	2.1	2.8	2.3
SAM case fatality under 5 year rate	10.2	8.8	15.8	6.5
Infant Mortality				
Registered deaths (StatsSA)	230	231		
Hospital deaths (DHIS)	129	125	169	128
Hospital deaths (Child PIP)	12	10	4	
IMR (StatsSA)	33.2	32.9		
IHMR (DHIS)	11.6	12.5	14.6	10.9
IHMR (Child PIP)	3.0	3.8	2.2	
% deaths in health service	41.3	55.0		
N ^o deaths in District Hospital	33	30	39	35
N ^o deaths in Regional Hospital	96	95	130	93
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	292	296		
Hospital deaths (DHIS)	140	134	180	138
Hospital deaths (Child PIP)	15	14	5	
U5MR (StatsSA)	42.1	42.2		
IHMR (DHIS)	6.1	6.4	7.6	6.1
IHMR (Child PIP)	1.3	2.0	1.6	
% deaths in health service	36.6	49.3		
N ^o deaths in District Hospital	37	35	40	37
N ^o deaths in Regional Hospital	103	99	139	101
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.1	3.1	5.4
Tuberculosis (A15-A19)		0.4	1.5	0.7
Other bacterial diseases (A30-A49)		0.9	0.0	0.7
HIV disease (B20-B24)		1.7	1.5	1.7
Other viral diseases (B25-B34)		2.2	6.2	3.0
Malnutrition (E40-E46)		5.6	9.2	6.4
Influenza and pneumonia (J09-J18)		10.4	12.3	10.8
Perinatal conditions 9P00-P96)		42.0	0.0	32.8
Congenital Disorders (Q00-Q99)		7.4	3.1	6.4
Ill defined/Miscellaneous conditions (R00-R99)		6.9	4.6	6.4
Non-natural (V01-Y98)		3.9	30.8	9.8
Other		12.6	27.7	15.9

	2016	2017	2018	2019
Modifiable Factors				
N ^o hospitals doing Child PIP	5	4	5	
% children under-5 who died and had severe malnutrition	64.7	14.3	40.0	
% children under-5 who died and were HIV Infected or Exposed	35.3	42.9	40.0	
% Deaths within 24 hrs of admission to hospital	41.2	53.8	100	
Total MFR/death	3.4	4.9	8.0	
MFR - Clinical Personnel	2.3	3.2	4.8	
MFR - Administrator	0.5	0.8	1.6	
MFR - Caregiver	0.6	0.9	1.6	
% - Ward	13.8	26.1	15.0	
% - A&E	13.8	27.5	40.0	
% - Referring Facility & Transit	10.3	10.1	7.5	
% - Clinic/OPD	36.2	13.0	12.5	
% - Home	25.9	23.2	25.0	
Ward				
Inadequate number of nurses assigned to children's ward	1			
RTHC information not present in child's folder	2			
New danger signs inadequately identified while in ward	3			
Inadequate monitoring of blood glucose in ward		1		
Danger signs missed due to inadequate monitoring in ward		2		
Inadequate response to new danger signs		3		
Lack of High Care and/or ICU facilities for children			1	
No hand-over of critically ill child in ward			2	
Inadequate number of doctors assigned to children's ward			3	
A&E/OPD				
No A&E staff trained in ETAT/BLS/APLS	1			
Did not arrive at A&E on day of referral	2			
Emergency signs not recognised at A&E	3			
Inadequate history taken at A&E		1		
Inadequate treatment of shock in A&E (fluid type, amount, rate)		2		
Not classified as critically ill despite presence of danger signs at A&E		3		
Inadequate notes on clinical care at A&E			1	
Inadequate treatment of shock in A&E (fluid type, amount, rate)			2	
Inadequate assessment of shock at A&E			3	
Referring facility				
No or delayed referral to higher level	1			
Inadequate ambulance service from health facility to receiving hospital	2			
Inappropriate care or late referral from private sector/GP	3			
Grade of ambulance crew inappropriate for child's condition		1		
Delayed arrival of ambulance at referring facility		2		
Severity of child's condition incorrectly assessed at referring facility		3	1	
No high care bed in referring facility for pre-transfer care of child			2	
No ambulance available for transfer from referring to receiving hospital			3	
Clinic				
Inadequate IMCI implementation at clinic/OPD	1			
Lack of standardised case management protocols in clinic/OPD	2			
Danger signs missed at clinic/OPD	1		1	
No follow up for child's nutritional problem at clinic/OPD		2	2	
Delayed referral of child with danger signs, from clinic/OPD		3		
Child's growth problem inadequately identified or classified		1	3	
Home				
Caregiver delayed seeking care	1	3	1	
Caregiver did not take child to clinic for vaccines as scheduled		2		
Never referred to integrated nutrition programme (INP)	2			
Caregiver did not recognise danger signs/severity of illness			2	
Child not provided with adequate (quality and/or quantity) food at home	3		3	
'Traditional remedy' with -ve effect on child		1		

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	70.0	69.8	71.8	76.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	48.6	53.1	52.3	52.8
Measles 2 nd dose coverage	94.3	73.2	77.9	76.3
Vitamin A dose 12 - 59 months coverage	40.2	43.4	46.7	47.2
Infant PCR test positive around 10 weeks rate	-	1.2	1.0	1.3
N ^o of HIV +ve children on ART	6 796	27 184	26 800	29 344
% with viral load suppression at 12 months	76.2	78.4	79.2	67.8
% children screened at facilities for TB	-	79.5	98.9	110.1
Diarrhoea incidence	13.7	5.3	5.7	4.5
Diarrhoea case fatality under 5 years rate	2.8	4.3	0.8	1.1
Pneumonia incidence	59.3	47.2	57.6	53.2
Pneumonia case fatality under 5 years rate	1.6	2.1	1.1	2.1
SAM incidence	7.3	6.5	5.4	9.2
SAM case fatality under 5 year rate	5.7	4.5	4.7	6.4
Infant Mortality				
Registered deaths (StatsSA)	366	444		
Hospital deaths (DHIS)	213	269	311	331
Hospital deaths (Child PIP)	72	64	38	
IMR (StatsSA)	23.3	27.9		
IHMR (DHIS)	6.4	8.0	7.2	7.8
IHMR (Child PIP)	3.1	2.8	3.4	
% deaths in health service	61.5	62.8		
N ^o deaths in District Hospital	9	18	16	17
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	204	232	279	272
Under-5 Mortality				
Registered deaths (StatsSA)	473	557		
Hospital deaths (DHIS)	234	303	353	373
Hospital deaths (Child PIP)	118	99	59	
U5MR (StatsSA)	30.1	35.1		
IHMR (DHIS)	4.7	5.7	5.4	5.6
IHMR (Child PIP)	2.0	2.0	2.5	
% deaths in health service	56.4	59.6		
N ^o deaths in District Hospital	11	21	20	19
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	223	259	309	304
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		2.9	1.8	2.7
Tuberculosis (A15-A19)		0.2	6.2	1.4
Other bacterial diseases (A30-A49)		1.6	0.9	1.4
HIV disease (B20-B24)		0.9	3.5	1.4
Other viral diseases (B25-B34)		0.2	0.9	0.4
Malnutrition (E40-E46)		3.6	9.7	4.8
Influenza and pneumonia (J09-J18)		3.4	2.7	3.2
Perinatal conditions 9P00-P96)		43.7	0.0	34.8
Congenital Disorders (Q00-Q99)		16.2	8.0	14.5
Ill defined/Miscellaneous conditions (R00-R99)		17.6	32.7	20.6
Non-natural (V01-Y98)		1.6	16.8	4.7
Other		8.1	16.8	9.9

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	6	5	6	
	% children under-5 who died and had severe malnutrition	24.2	23.7	25.7	
	% children under-5 who died and were HIV Infected or Exposed	20.5	22.3	22.9	
	% Deaths within 24 hrs of admission to hospital	26.7	30.6	18.2	
	Total MFR/death	2.6	3.1	2.9	
	MFR - Clinical Personnel	1.4	1.8	2.0	
	MFR - Administrator	0.3	0.3	0.1	
	MFR - Caregiver	0.9	0.9	0.8	
	% - Ward	23.5	31.2	32.0	
	% - A&E	10.3	16.9	20.2	
	% - Referring Facility & Transit	15.7	11.0	11.8	
	% - Clinic/OPD	10.6	8.7	5.9	
	% - Home	39.9	32.2	30.0	
Ward					
	Other clinical personnel modifiable factor in ward	1		1	
	Inadequate number of nurses assigned to children's ward	2			
	Insufficient notes on clinical care in ward (assess, manage, monitor)	3	2		
	New danger signs inadequately identified while in ward		1		
	Possible serious bacterial infection not considered in ward		3		
	Doctor not called for critically ill child in ward			2	
A&E/OPD					
	Not classified as critically ill despite presence of danger signs at A&E	1			
	Emergency signs not recognised at A&E	2			
	Inadequate physical examination at A&E	3		2	
	Inadequate assessment of shock at A&E		1		
	Inadequate history taken at A&E		2	1	
	Priority signs not recognised at A&E		3		
	Not classified as critically ill despite presence of danger signs at A&E			3	
Referring facility					
	Inadequate referral letter from referring facility		1		
	Severity of child's condition incorrectly assessed at referring facility	1		1	
	Emergency or priority care not provided at referring hospital	3	3	2	
	No or delayed referral to higher level	2	2	3	
Clinic					
	Child's growth problem inadequately identified or classified		2	1	
	Danger signs missed at clinic/OPD	2	1		
	Inadequate assessment for household TB contact at clinic/OPD	3			
	Delayed referral for severe malnutrition, weight loss, growth faltering			2	
	Inadequate assesment for HIV (IMCI not used) at clinic/OPD		3		
	Inadequate response to growth faltering or failure, at clinic/OPD	1		3	
Home					
	Caregiver delayed seeking care	1	1	2	
	Caregiver did not recognise danger signs/severity of illness	2	2	3	
	Child not provided with adequate (quality and/or quantity) food at home	3	3	1	

GAUTENG

SOCIO-DEMOGRAPHIC PROFILE

	Gauteng	Sedibeng	West Rand	Ekhurhuleni	Johannesburg	Tshwane
Demographic Profile						
Total population	14 361 347	995 666	890 241	3 609 252	5 316 210	3 549 978
Population density (people/km ²)	790.0	238.6	217.8	1828.0	3232.0	563.7
N° children < 5 years	1 278 086	92 597	82 792	314 005	473 143	330 148
N° children < 15 years	3 628 464	262 856	230 572	895 094	1 323 736	915 894
% of population < 5 years	8.9	9.3	9.3	8.7	8.9	9.3
% of population < 15 years	25.3	26.4	25.9	24.8	24.9	25.8
Annual births	205 612	16 363	12 345	60 219	57 799	58 886
Household profile						
% female headed households	24.6	20.8	24.1	23.8	22.2	30.6
% children who are orphans	11.0					
% children 5 - 6 years attending ECD centre	94.5					
% children 7 - 17 years attending school	98.5					
% population > 20 years with no schooling	3.9	9.2	8.2	8.3	6.8	8.5
% population > 20 years with no matric	41.7	64	65.3	61.5	61.5	61.5
% living in formal dwelling	81.4	86.7	76.3	80.4	81.3	82.7
% households with piped water in dwelling	60.0	69.9	55.5	56.5	60.3	62.1
% households using electricity for lighting	89.7	93.5	84.0	85.7	91.3	92.3
% households with flush sanitation	89.4	86.6	80.1	85.4	88.6	77.2
% households with weekly refuse removal	83.6	86.8	79.3	84.8	85.4	79.4
Unemployment rate	26.3	31.9	26.3	28.8	25	24.2
% children living in poverty	43.8					
% children >30 mins from health facility	7.9					
Health services						
N° Community Health Workers	8 589	1 260	1 129	1 775	2 492	1 930
N° PHC clinics	364	30	46	84	102	102
N° Community Health Centres	42	8	3	9	11	11
N° District Hospitals	9	2	2	1	2	2
N° Regional Hospitals	10	1	1	4	2	2
N° Tertiary/Central Hospitals	7	0	0	1	3	3
N° Other Hospitals	167	8	13	31	59	56
% Ideal PHC clinics	89.2	100.0	81.3	100.0	74.6	98.6
Medical aid coverage	24.6	20.8	24.1	23.8	22.2	30.6
Staffing (N° / 100,000 population)						
Nursing Assistants	59.2	43.0	83.3	40.1	58.3	58.3
Enrolled nurses	68.6	62.3	96.6	48.9	62.6	62.6
Professional nurses	131.6	123.5	183.7	92.4	114.9	114.9
Dental practitioners	2.4	2.3	2.4	1.1	1.5	1.5
Medical practitioners	33.7	23.5	38.3	31.1	32.4	32.4
Medical specialists	17.2	4.3	8.6	3.9	21.6	30.7
Paediatrician	254					
Pharmacists	11.4	17.8	15.5	9.6	9	9
Occupational therapists	2.7	2.8	3.1	2.1	2.2	2.2
Physiotherapists	2.6	1.9	2.7	2.1	2.3	2.3
Maternal Health						
Antenatal 1 st visit coverage	88.9	70.3	83.5	93.7	91.1	87.9
Antenatal 1 st visit before 20 weeks rate	64.7	69.6	71.1	63.1	63.8	63.8
Delivery in 10 - 19 years in facility rate	6.7	10.9	7.3	6.5	9.3	4.9
Mother postnatal visit within 6 days	75.1	66.8	60.8	73.1	82.8	82.8
Maternal mortality ratio	122.8	95.9	140.4	120.5	101.3	101.3

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	74.1	77.0	84.5	86.9
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	44.0	47.4	46.1	45.8
Measles 2 nd dose coverage	84.8	74.5	78.8	79.8
Vitamin A dose 12 - 59 months coverage	51.7	50.4	55.2	52.7
Infant PCR test positive around 10 weeks rate	4.50	1.70	0.99	0.73
N ^o of HIV +ve children on ART	100 774	403 096	384 032	380 376
% with viral load suppression at 12 months	54.5	62.7	64.8	68.2
% children screened at facilities for TB	-	66.7	81.1	87.2
Diarrhoea incidence	6.8	7.8	5.9	5.9
Diarrhoea case fatality under 5 years rate	1.7	2.3	2.1	1.7
Pneumonia incidence	22.9	19.7	17.7	16.8
Pneumonia case fatality under 5 years rate	1.5	2.6	2.8	1.8
SAM incidence	1.9	1.5	1.6	1.5
SAM case fatality under 5 year rate	6.5	6.2	6.8	5.9
Infant Mortality				
Registered deaths (StatsSA)	5 264	4 732		
Hospital deaths (DHIS)	3 408	3 572	3 518	3 458
Hospital deaths (Child PIP)	445	505	461	
IMR (StatsSA)	26.2	22.9		
IHMR (DHIS)	9.7	10.1	10.0	11.0
IHMR (Child PIP)	2.5	2.9	2.8	
% deaths in health service	55.8	62.2		
N ^o deaths in District Hospital	320	281	312	327
N ^o deaths in Regional Hospital	1 258	1 431	1 290	1 266
N ^o deaths in Tertiary/Central Hospital	1 787	1 815	1 863	1 831
Under-5 Mortality				
Registered deaths (StatsSA)	6 681	5 949		
Hospital deaths (DHIS)	3 993	4 136	3 916	3 766
Hospital deaths (Child PIP)	662	712	626	
U5MR (StatsSA)	33.2	28.8		
IHMR (DHIS)	6.7	6.9	6.1	6.4
IHMR (Child PIP)	1.8	2.1	2.2	
% deaths in health service	51.1	57.8		
N ^o deaths in District Hospital	376	306	355	351
N ^o deaths in Regional Hospital	1 472	1 642	1 411	1 373
N ^o deaths in Tertiary/Central Hospital	2 102	2 143	2 097	2 008
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.9	5.6	4.3
Tuberculosis (A15-A19)		0.4	2.2	0.8
Other bacterial diseases (A30-A49)		2.2	1.8	2.1
HIV disease (B20-B24)		0.4	1.2	0.6
Other viral diseases (B25-B34)		0.6	1.3	0.7
Malnutrition (E40-E46)		0.9	2.5	1.2
Influenza and pneumonia (J09-J18)		6.4	7.6	6.7
Perinatal conditions 9P00-P96)		46.9	0.1	37.3
Congenital Disorders (Q00-Q99)		11.1	5.2	9.9
Ill defined/Miscellaneous conditions (R00-R99)		13.2	22.8	15.2
Non-natural (V01-Y98)		3.2	24.7	7.6
Other		10.8	25.1	13.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	17	19	20	
% severe malnutrition	21.0	17.1	18.9	
% HIV Infected or Exposed	37.2	30.4	27.1	
% Deaths within 24 hrs	33.7	28.9	29.9	
Total MFR/death	2.3	2.1	2.1	
MFR - Clinical Personnel	1.1	1.0	1.1	
MFR - Administrator	0.5	0.4	0.4	
MFR - Caregiver	0.8	0.7	0.6	
% - Ward	30.3	34.9	33.4	
% - A&E	16.3	12.5	17.9	
% - Referring Facility & Transit	6.6	8.4	9.7	
% - Clinic/OPD	11.9	11.7	9.2	
% - Home	34.8	32.6	29.7	
Ward				
Other clinical personnel modifiable factor in ward	2			
New danger signs inadequately identified while in ward	3			
Danger signs missed due to inadequate monitoring in ward		2	3	
Inadequate number of nurses assigned to children's ward		3	2	
Lack of High Care / ICU facilities for children	1	1	1	
A&E/OPD				
Inadequate number of nurses assigned to children's ward	1		3	
Not classified as critically ill despite presence of danger signs at A&E	2	1		
Emergency signs not recognised at A&E	3	3		
Lack of Intensive and High Care beds in own, or referral hospital		2	1	
Inadequate notes on clinical care at A&E			2	
Referring facility				
Severity of child's condition incorrectly assessed at referring facility	1	2	2	
Emergency or priority care not provided at referring hospital		3	3	
Referring pathway and/or procedure not followed by referring facility	2			
No or delayed referral to higher level	3	1	1	
Clinic				
Child's growth problem inadequately identified or classified			2	
Inadequate response to danger signs at clinic/OPD			3	
Danger signs missed at clinic/OPD			1	
Delayed referral of child with danger signs, from clinic/OPD	1			
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	2	1		
Danger signs missed at clinic/OPD	3	2		
Inadequate response to growth faltering or failure, at clinic/OPD		3		
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
'Traditional remedy' with -ve effect on child	3	3	3	

DC42 SEDIBENG

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	75.7	74.7	76.2	84.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	35.8	44.8	48.1	43.2
Measles 2 nd dose coverage	92.7	73.1	69.8	78.2
Vitamin A dose 12 - 59 months coverage	55.7	51.8	54.1	55.9
Infant PCR test positive around 10 weeks rate		1.20	0.43	0.33
N ^o of HIV +ve children on ART	9 412	37 648	36 656	36 312
% with viral load suppression at 12 months	48.0	60.3	67.1	72.5
% children screened at facilities for TB	-	72.9	86.0	93.8
Diarrhoea incidence	2.7	1.3	1.0	0.9
Diarrhoea case fatality under 5 years rate	1.3	1.3	-	1.8
Pneumonia incidence	12.9	14.2	8.9	8.1
Pneumonia case fatality under 5 years rate	1.3	1.1	5.7	4.4
SAM incidence	1.0	0.5	0.5	0.7
SAM case fatality under 5 year rate	2.1	7.0	3.8	9.3
Infant Mortality				
Registered deaths (StatsSA)	463	462		
Hospital deaths (DHIS)	175	227	206	188
Hospital deaths (Child PIP)	14	12	7	
IMR (StatsSA)	31.6	30.7		
IHMR (DHIS)	14.3	19.6	12.4	9.2
IHMR (Child PIP)	2.0	3.7	0.5	
% deaths in health service	54.9	61.7		
N ^o deaths in District Hospital	36	40	39	37
N ^o deaths in Regional Hospital	133	185	160	149
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	581	587		
Hospital deaths (DHIS)	192	241	217	206
Hospital deaths (Child PIP)	19	14	8	
U5MR (StatsSA)	39.7	39.0		
IHMR (DHIS)	9.6	11.3	7.4	6.6
IHMR (Child PIP)	0.9	1.8	0.4	
% deaths in health service	51.1	55.7		
N ^o deaths in District Hospital	40	41	43	46
N ^o deaths in Regional Hospital	146	198	167	158
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.9	10.4	5.3
Tuberculosis (A15-A19)		0.2	3.2	0.9
Other bacterial diseases (A30-A49)		2.2	0.8	1.9
HIV disease (B20-B24)		0.0	1.6	0.3
Other viral diseases (B25-B34)		0.9	1.6	1.0
Malnutrition (E40-E46)		2.4	1.6	2.2
Influenza and pneumonia (J09-J18)		10.4	9.6	10.2
Perinatal conditions 9P00-P96)		49.8	0.0	39.2
Congenital Disorders (Q00-Q99)		8.0	6.4	7.7
Ill defined/Miscellaneous conditions (R00-R99)		7.4	20.8	10.2
Non-natural (V01-Y98)		3.9	27.2	8.9
Other		11.0	16.8	12.3

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	2	2	2	
% severe malnutrition	20.0	6.3	0.0	
% HIV Infected or Exposed	60.0	31.3	50.0	
% Deaths within 24 hrs	48.0	37.5	75.0	
Total MFR/death	0.4			
MFR - Clinical Personnel	0.2			
MFR - Administrator	0.0			
MFR - Caregiver	0.2			
% - Ward	0.0			
% - A&E	40.0			
% - Referring Facility & Transit	10.0			
% - Clinic/OPD	0.0			
% - Home	50.0			
Ward				
No data				
A&E/OPD				
Inadequate notes on clinical care at A&E	1			
Emergency signs not recognised at A&E	2			
Results of urgent investigations not obtained at A&E	3			
Referring facility				
Referring pathway and/or procedure not followed by referring facility	1			
Clinic				
No data				
Home				
Inappropriate treatment given at home with negative effect on the child, e.g. ener	1			
Child not provided with adequate (quality and/or quatity) food at home	2			
`Traditional remedy` given from traditional healer, with -ve effect on child	3			

DC48 WEST RAND

		2016/17	2017/18	2018/19	2019/20
Child Health					
	Immunisation under 1 year coverage	74.2	81.8	87.2	88.3
	Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	55.7	53.8	58.9	58.6
	Measles 2 nd dose coverage	86.1	80.7	82.4	82.7
	Vitamin A dose 12 - 59 months coverage	53.5	61.9	64.1	60.8
	Infant PCR test positive around 10 weeks rate	-	3.0	1.1	0.4
	N ^o of HIV +ve children on ART	6 176	24 704	23 752	23 520
	% with viral load suppression at 12 months	35.5	59.1	66.4	71.4
	% children screened at facilities for TB	-	88.1	96.3	96.7
	Diarrhoea incidence	8.4	11.0	5.8	6.0
	Diarrhoea case fatality under 5 years rate	3.2	2.8	1.8	1.5
	Pneumonia incidence	25.8	12.7	12.1	10.6
	Pneumonia case fatality under 5 years rate	2.3	1.9	4.1	1.3
	SAM incidence	1.8	1.2	1.2	1.2
	SAM case fatality under 5 year rate	10.6	2.9	1.8	1.0
Infant Mortality					
	Registered deaths (StatsSA)		325.0		
	Hospital deaths (DHIS)	244.0	219.0	168.0	170.0
	Hospital deaths (Child PIP)	57.0	19.0		
	IMR (StatsSA)		23.0		
	IHMR (DHIS)	11.0	9.0	6.4	6.8
	IHMR (Child PIP)	7.1	3.3		
	% deaths in health service		211.0		
	N ^o deaths in District Hospital	59.0	50.0	46.0	47.0
	N ^o deaths in Regional Hospital	181.0	166.0	120.0	123.0
	N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality					
	Registered deaths (StatsSA)		401.0		
	Hospital deaths (DHIS)	300.0	238.0	196.0	179.0
	Hospital deaths (Child PIP)	76.0	26.0		
	U5MR (StatsSA)		28.3		
	IHMR (DHIS)	8.3	6.1	4.2	4.8
	IHMR (Child PIP)	3.8	2.1		
	% deaths in health service		237.0		
	N ^o deaths in District Hospital	73.0	56.0	57.0	49.0
	N ^o deaths in Regional Hospital	223.0	179.0	137.0	130.0
	N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017					
			Under 1	1-4 years	Under 5
	Intestinal Infections (A00 - A09)		4.3	10.5	5.5
	Tuberculosis (A15-A19)		0.0	0.0	0.0
	Other bacterial diseases (A30-A49)		1.5	1.3	1.5
	HIV disease (B20-B24)		0.6	1.3	0.7
	Other viral diseases (B25-B34)		0.9	0.0	0.7
	Malnutrition (E40-E46)		0.9	2.6	1.2
	Influenza and pneumonia (J09-J18)		5.5	1.3	4.7
	Perinatal conditions 9P00-P96)		51.4	0.0	41.6
	Congenital Disorders (Q00-Q99)		6.2	2.6	5.5
	Ill defined/Miscellaneous conditions (R00-R99)		16.9	27.6	19.0
	Non-natural (V01-Y98)		1.5	23.7	5.7
	Other		10.2	28.9	13.7

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	1	1	0	
	% severe malnutrition	20.0	27.6		
	% HIV Infected or Exposed	37.5	34.5		
	% Deaths within 24 hrs	31.3	24.1		
	Total MFR/death	1.3	1.2		
	MFR - Clinical Personnel	0.5	0.4		
	MFR - Administrator	0.3	0.1		
	MFR - Caregiver	0.6	0.7		
	% - Ward	42.9	25		
	% - A&E	0.0	5.6		
	% - Referring Facility & Transit	6.7	2.8		
	% - Clinic/OPD	5.7	16.7		
	% - Home	44.8	50.0		
Ward					
	Other clinical personnel modifiable factor in ward	1			
	Other administrator modifiable factor in ward	2			
	New danger signs inadequately identified while in ward	3			
	Inadequate monitoring of blood glucose in ward		3		
	Lack of High Care / ICU facilities for children		1		
	Inadequate revision of fluid, despite changing condition		2		
A&E/OPD					
	Appropriate antibiotics not prescribed at A&E		1		
	Inadequate assessment of shock at A&E		2		
Referring facility					
	Inadequate ambulance service from health facility to receiving hospital	1			
	Inadequate monitoring and critical care equipment in referring facility	2			
	Other caregiver modifiable factor in transit care		1		
	Child not monitored correctly in ambulance	3			
Clinic					
	Other administrator modifiable factor at clinic/OPD	1			
	No emergency transport from clinic to hospital	2			
	Did not arrive at clinic/OPD on day of referral/did not keep appointment	3			
	Danger signs missed at clinic/OPD		1		
	Inadequate response to danger signs at clinic/OPD		2		
	Inadequate IMCI implementation at clinic/OPD		3		
Home					
	Caregiver delayed seeking care	1	2		
	Caregiver did not recognise danger signs/severity of illness	2	1		
	Child not provided with adequate (quality and/or quantity) food at home	3	3		

CITY OF JOHANNESBURG

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	79.4	79.6	84.3	86.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	42.3	46.8	41.3	41.3
Measles 2 nd dose coverage	86.9	75.7	74.7	74.4
Vitamin A dose 12 - 59 months coverage	54.2	49.6	52.9	50.3
Infant PCR test positive around 10 weeks rate	4.50	1.30	0.90	0.55
N ^o of HIV +ve children on ART	35 642	142 568	135 152	133 872
% with viral load suppression at 12 months	63.5	70.2	66.8	66.6
% children screened at facilities for TB	-	65.8	79.9	87.6
Diarrhoea incidence	7.2	8.3	8.0	8.3
Diarrhoea case fatality under 5 years rate	1.0	2.5	1.6	2.4
Pneumonia incidence	22.7	20.2	16.6	16.5
Pneumonia case fatality under 5 years rate	1.1	3.4	3.9	2.2
SAM incidence	1.6	1.5	1.6	1.6
SAM case fatality under 5 year rate	3.4	4.1	3.1	4.4
Infant Mortality				
Registered deaths (StatsSA)	1 646	1 472		
Hospital deaths (DHIS)	1 154	1 233	1 146	1 245
Hospital deaths (Child PIP)	140	131	75	
IMR (StatsSA)	27.7	24.1		
IHMR (DHIS)	8.5	8.6	9.4	12.2
IHMR (Child PIP)	1.9	2.3	1.6	
% deaths in health service	56.1	58.9		
N ^o deaths in District Hospital	44	22	22	30
N ^o deaths in Regional Hospital	276	326	292	316
N ^o deaths in Tertiary/Central Hospital	830	879	824	898
Under-5 Mortality				
Registered deaths (StatsSA)	2 099	1 843		
Hospital deaths (DHIS)	1 363	1 415	1 251	1 358
Hospital deaths (Child PIP)	223	183	94	
U5MR (StatsSA)	35.3	30.2		
IHMR (DHIS)	5.7	5.4	5.1	6.0
IHMR (Child PIP)	1.5	1.6	1.2	
% deaths in health service	50.5	54.2		
N ^o deaths in District Hospital	50	23	24	30
N ^o deaths in Regional Hospital	352	382	321	365
N ^o deaths in Tertiary/Central Hospital	957	1 004	898	962
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		2.4	1.9	2.3
Tuberculosis (A15-A19)		0.3	2.2	0.7
Other bacterial diseases (A30-A49)		2.3	2.7	2.4
HIV disease (B20-B24)		0.4	0.8	0.5
Other viral diseases (B25-B34)		0.5	1.3	0.7
Malnutrition (E40-E46)		0.5	1.1	0.6
Influenza and pneumonia (J09-J18)		5.7	5.7	5.7
Perinatal conditions 9P00-P96)		46.1	0.0	36.8
Congenital Disorders (Q00-Q99)		13.4	7.0	12.1
Ill defined/Miscellaneous conditions (R00-R99)		15.0	24.5	16.9
Non-natural (V01-Y98)		3.6	26.4	8.2
Other		9.9	26.4	13.2

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	3	5	
% severe malnutrition	19.4	19.2	13.2	
% HIV Infected or Exposed	24.8	31.7	26.3	
% Deaths within 24 hrs	27.0	25.7	34.3	
Total MFR/death	2.3	2.1	1.5	
MFR - Clinical Personnel	0.8	0.7	0.3	
MFR - Administrator	0.5	0.6	0.7	
MFR - Caregiver	0.9	0.8	0.5	
% - Ward	27.5	38.5	41.2	
% - A&E	6.4	4.6	13.5	
% - Referring Facility & Transit	10.5	7.7	14.1	
% - Clinic/OPD	12.6	13.4	6.5	
% - Home	43.0	35.8	24.7	
Ward				
Inadequate number of nurses assigned to children's ward	2	2	2	
Other administrator modifiable factor in ward			3	
Other clinical personnel modifiable factor in ward	3	3		
Lack of High Care / ICU facilities for children	1	1	1	
A&E/OPD				
Lack of Intensive and High Care beds in own, or referral hospital	1	3	2	
Not classified as critically ill despite presence of danger signs at A&E	2			
Inadequate paediatric resuscitation area in casualty/OPD	3			
Emergency signs not recognised at A&E		1		
Inadequate treatment of shock in A&E (fluid type, amount, rate)		2		
Other caregiver modifiable factor at A&E			1	
Barriers to entry to A&E service			3	
Referring facility				
Inadequate referral letter from referring facility	2			
Emergency or priority care not provided at referring hos			1	
Other clinical personnel modifiable factor in transit care			2	
Severity of child's condition incorrectly assessed at referring facility	1	2		
Emergency signs not recognised at A&E		3		
No or delayed referral to higher level	3	1	3	
Clinic				
Delayed referral of child with danger signs, from clinic/OPD	1			
Inadequate response to danger signs at clinic/OPD	2		2	
Danger signs missed at clinic/OPD	3			
Inadequate assesment for HIV (IMCI not used) at clinic/OPD		1		
Other clinical personnel modifiable factor at clinic/OPD		2		
HIV result not obtained/documentated at clinic/OPD		3		
Other administrator modifiable factor at clinic/OPD			1	
Inadequate notes on clinical care (assess, classify, treat) at clinic			3	
Home				
Caregiver delayed seeking care	2	2	2	
Caregiver did not recognise danger signs/severity of illness	1	1	1	
Other caregiver modifiable factot at home/in community	3	3		
'Traditional remedy' with negative effect on child			1	

CITY OF TSHWANE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	61.0	67.7	81.7	83.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	58.0	48.5	43.1	42.9
Measles 2 nd dose coverage	67.3	64.7	79.8	78.2
Vitamin A dose 12 - 59 months coverage	40.8	43.1	51.3	49.2
Infant PCR test positive around 10 weeks rate		3.4	1.5	1.2
N ^o of HIV +ve children on ART	21 246	84 984	80 872	80 104
% with viral load suppression at 12 months	74.9	68.4	67.4	64.0
% children screened at facilities for TB	-	66.7	79.4	88.2
Diarrhoea incidence	5.7	7.3	4.8	4.5
Diarrhoea case fatality under 5 years rate	1.9	1.3	2.7	1.1
Pneumonia incidence	28.0	23.5	22.4	20.8
Pneumonia case fatality under 5 years rate	1.5	2.9	2.2	2.2
SAM incidence	2.5	1.8	2.3	1.5
SAM case fatality under 5 year rate	7.7	7.2	9.4	4.6
Infant Mortality				
Registered deaths (StatsSA)	1 007	1 210		
Hospital deaths (DHIS)	922	923	1 077	932
Hospital deaths (Child PIP)	35	182	215	
IMR (StatsSA)	17.4	20.4		
IHMR (DHIS)	10.3	11.6	12.9	11.7
IHMR (Child PIP)	1.6	3.4	3.4	
% deaths in health service	64.3	68.1		
N ^o deaths in District Hospital	95	109	158	161
N ^o deaths in Regional Hospital	130	160	172	140
N ^o deaths in Tertiary/Central Hospital	685	630	722	610
Under-5 Mortality				
Registered deaths (StatsSA)	1 316	1 563		
Hospital deaths (DHIS)	1 159	1 152	1 264	1 038
Hospital deaths (Child PIP)	66	266	302	
U5MR (StatsSA)	22.8	26.4		
IHMR (DHIS)	7.2	8.4	8.1	7.0
IHMR (Child PIP)	1.2	2.4	2.7	
% deaths in health service	60.5	64.3		
N ^o deaths in District Hospital	121	123	177	173
N ^o deaths in Regional Hospital	157	182	196	147
N ^o deaths in Tertiary/Central Hospital	869	823	866	697
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.1	7.1	6.3
Tuberculosis (A15-A19)		0.7	2.0	1.0
Other bacterial diseases (A30-A49)		2.4	1.4	2.2
HIV disease (B20-B24)		0.6	2.0	0.9
Other viral diseases (B25-B34)		0.8	0.8	0.8
Malnutrition (E40-E46)		0.8	4.5	1.7
Influenza and pneumonia (J09-J18)		5.2	8.5	6.0
Perinatal conditions 9P00-P96)		43.3	0.3	33.6
Congenital Disorders (Q00-Q99)		14.3	5.7	12.3
Ill defined/Miscellaneous conditions (R00-R99)		9.9	18.7	11.9
Non-natural (V01-Y98)		3.1	20.4	7.0
Other		12.7	28.6	16.3

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	7	7	
% severe malnutrition	19.3	16.1	19.8	
% HIV Infected or Exposed	41.0	23.9	18.2	
% Deaths within 24 hrs	31.3	27.5	24.5	
Total MFR/death	1.0	1.7	1.5	
MFR - Clinical Personnel	0.3	1.0	0.8	
MFR - Administrator	0.3	0.3	0.2	
MFR - Caregiver	0.4	0.5	0.4	
% - Ward	8.4	30.9	29.5	
% - A&E	33.7	15.4	17.1	
% - Referring Facility & Transit	13.3	13.7	16.5	
% - Clinic/OPD	4.8	10.7	7.3	
% - Home	39.8	29.3	29.6	
Ward				
Inadequate revision of fluid management plan, despite changing condition	1			
Inadequate review of child with severe dehydration	2			
Other clinical personnel modifiable factor in ward	3	1	1	
New danger signs inadequately identified while in ward		2		
Inadequate response to new danger signs			3	
Lack of High Care / ICU facilities for children		3	2	
A&E/OPD				
Lack of experienced doctors at A&E	1			
Not classified as critically ill despite presence of danger signs at A&E	2	2	3	
Emergency signs not recognised at A&E	3			
Other clinical personnel modifiable factor at A&E		1		
Lack of Intensive and High Care beds in own, or referral hospital		3	1	
Inadequate assessment of dehydration at A&E			2	
Referring facility				
Delayed arrival of ambulance at referring facility	1			
No plan for transporting caregiver to receiving facility	2			
Inadequate critical care consumables in referring facility	3			
Emergency or priority care not provided at referring hospital			2	
No high care bed in referring facility for pre-transfer care of child		3		
Severity of child's condition incorrectly assessed at referring facility		2	3	
No or delayed referral to higher level		1	1	
Clinic				
Danger signs missed at clinic/OPD	1	2	3	
Inadequate response to danger signs at clinic/OPD	2		2	
No clear documentation of child's HIV status at clinic/OPD	3			
Delayed referral of child with danger signs, from clinic/OPD		1	1	
Other clinical personnel modifiable factor at clinic/OPD		3		
Home				
Caregiver delayed seeking care		2	1	
Caregiver did not recognise danger signs/severity of illness	3	1	2	
RTHC not used or lost by caregiver	2			
'Traditional remedy' with negative effect on child	1	3	3	

CITY OF EKURHULENI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	78.9	81.9	89.3	93.4
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	36.3	46.3	51.5	51.8
Measles 2 nd dose coverage	97.0	80.5	85.6	88.9
Vitamin A dose 12 - 59 months coverage	57.2	54.8	60.3	56.5
Infant PCR test positive around 10 weeks rate	-	1.20	0.87	0.88
N ^o of HIV +ve children on ART	28 298	113 192	107 600	106 568
% with viral load suppression at 12 months	41.7	54.8	59.4	71.1
% children screened at facilities for TB	-	59.5	78.2	81.6
Diarrhoea incidence	8.0	8.7	5.1	5.3
Diarrhoea case fatality under 5 years rate	2.5	3.4	2.4	1.8
Pneumonia incidence	19.9	18.4	18.5	17.1
Pneumonia case fatality under 5 years rate	1.9	2.1	2.4	1.4
SAM incidence	1.9	1.5	1.5	1.4
SAM case fatality under 5 year rate	10.7	8.2	9.6	11.0
Infant Mortality				
Registered deaths (StatsSA)	1 667	1 263		
Hospital deaths (DHIS)	913	970	921	923
Hospital deaths (Child PIP)	199	161	164	
IMR (StatsSA)	30.1	22.2		
IHMR (DHIS)	9.9	9.9	8.8	10.5
IHMR (Child PIP)	3.0	2.8	2.6	
% deaths in health service	50.1	59.9		
N ^o deaths in District Hospital	86	60	47	52
N ^o deaths in Regional Hospital	538	594	546	538
N ^o deaths in Tertiary/Central Hospital	272	306	317	323
Under-5 Mortality				
Registered deaths (StatsSA)	2 043	1 555		
Hospital deaths (DHIS)	979	1 090	988	985
Hospital deaths (Child PIP)	278	223	222	
U5MR (StatsSA)	36.9	27.4		
IHMR (DHIS)	6.8	7.5	6.2	6.9
IHMR (Child PIP)	2.4	2.2	2.1	
% deaths in health service	46.4	55.9		
N ^o deaths in District Hospital	92	63	54	53
N ^o deaths in Regional Hospital	594	701	590	573
N ^o deaths in Tertiary/Central Hospital	276	316	333	349
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.5	5.1	3.8
Tuberculosis (A15-A19)		0.6	2.7	1.0
Other bacterial diseases (A30-A49)		2.0	1.7	1.9
HIV disease (B20-B24)		0.4	0.7	0.5
Other viral diseases (B25-B34)		0.3	2.1	0.6
Malnutrition (E40-E46)		1.0	2.1	1.2
Influenza and pneumonia (J09-J18)		7.1	9.9	7.7
Perinatal conditions 9P00-P96)		49.0	0.0	39.8
Congenital Disorders (Q00-Q99)		7.8	2.4	6.8
Ill defined/Miscellaneous conditions (R00-R99)		15.5	25.0	17.3
Non-natural (V01-Y98)		2.9	26.7	7.4
Other		9.9	21.6	12.1

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	6	6	6	
% severe malnutrition	23.1	16.0	20.9	
% HIV Infected or Exposed	45.2	37.0	39.4	
% Deaths within 24 hrs	39.6	33.1	34.1	
Total MFR/death	3.2	2.9	3.3	
MFR - Clinical Personnel	1.7	1.5	1.8	
MFR - Administrator	0.7	0.5	0.6	
MFR - Caregiver	0.8	0.9	0.9	
% - Ward	32.9	36.0	34.4	
% - A&E	22.4	15.7	19.4	
% - Referring Facility & Transit	3.6	5.0	4.5	
% - Clinic/OPD	12.9	11.1	11.0	
% - Home	28.2	32.2	30.7	
Ward				
Danger signs missed due to inadequate monitoring in ward	2	1	2	
Inadequate number of nurses assigned to children's ward			3	
New danger signs inadequately identified while in ward	3			
Inadequate response to new danger signs		3		
Lack of High Care / ICU facilities for children	1	2	1	
A&E/OPD				
Not classified as critically ill despite presence of danger signs at A&E		1		
Child not triaged at A&E (spent time in a queue)		2		
Lack of Intensive and High Care beds in own, or referral hospital		3	2	
Inadequate problem list compiled at A&E			3	
Inadequate paediatric resuscitation area in casualty/OPD	1			
Inadequate history taken at A&E	2			
Inadequate notes on clinical care at A&E	3		1	
Referring facility				
Inadequate referral letter from referring facility	3		2	
Inappropriate care or late referral from private sector/GP		3	3	
Severity of child's condition incorrectly assessed at referring facility	1	2		
Inadequate problem list compiled at A&E	2			
No or delayed referral to higher level		1	1	
Clinic				
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	1	2	3	
Inadequate response to growth faltering or failure, at clinic/OPD	2	1	2	
No clear documentation of child's HIV status at clinic/OPD	3			
Child's growth problem inadequately identified or classified		3	1	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
Child not provided with adequate (quality and/or quantity) food at home			3	
'Traditional remedy' with -ve effect on child	3	3		

SOCIO-DEMOGRAPHIC PROFILE

Demographic Profile		Province	uGu	uMgungundlovu	uThukela	uMzinyathi	Amajuba
	Total population	11 565 963	796 446	1 184 320	767 592	578 835	587 033
	Population density (people/km ²)	122.6	166.2	123.3	68.9	66.5	82.7
	N° children < 5 years	1 348 359	97 963	127 907	104 393	75 827	75 140
	N° children < 15 years	3 993 053	286 721	392 010	305 502	219 957	219 550
	% of population < 5 years	11.7	12.3	10.8	13.6	13.1	12.8
	% of population < 15 years	34.5	36.0	33.1	39.8	38.0	37.4
	Annual births	190 923	13 134	15 289	12 051	12 759	8 675
Household profile							
	% female headed households	47.4	49.9	46.4	6.4	58.9	48.4
	% children who are orphans	17.3					
	% children 5 - 6 years attending ECD centre	89.5					
	% children 7 - 17 years attending school	98.3					
	% population > 20 years with no schooling	8.6	11.7	20.3	20.3	39.9	12.3
	% population > 20 years with no matric	53.9	63.1	66.7	66.7	73.1	63.4
	% living in formal dwelling	72.7	45.1	76.7	52.7	47.0	84.4
	% households with piped water in dwelling	81.1	21.2	37.7	22.3	13.3	37.3
	% households using electricity for lighting	88.5	84.2	92.8	85.5	69.8	92.1
	% households with flush sanitation	76.6	20.8	40.5	29.0	20.3	52.0
	% households with weekly refuse removal	47.7	19.7	41.4	31.3	18.7	53.8
	Unemployment rate	33.0	35.2	30.4	39.9	36.6	39.1
	% children living in poverty	78.6					
	% children >30 mins from health facility	30.0					
Health services							
	N° Community Health Workers	9 780	827	878	171	515	457
	N° PHC clinics	597	52	50	36	53	25
	N° Community Health Centres	22	2	3	1	1	1
	N° District Hospitals	39	3	2	2	4	1
	N° Regional Hospitals	13	1	1	1	-	2
	N° Tertiary/Central Hospitals	4	-	1	-	-	-
	N° Other Hospitals	92	3	18	2	3	1
	% Ideal PHC clinics	76.2	62.3	90.4	81.1	100.0	100.0
	Medical aid coverage	11.9	7.3	11.0	6.4	5.4	7.4
Staffing (N° / 100,000 population)							
	Nursing Assistants	58.9	57.4	69.6	39.0	54.7	69.4
	Enrolled nurses	93.9	78.1	110.1	70.1	106.3	82.6
	Professional nurses	168.5	172.1	246.1	119.0	176.3	163.5
	Dental practitioners	1.5	2.2	2.4	1.4	1.1	1.5
	Medical practitioners	35.8	30.4	60.2	22.0	17.3	44.7
	Medical specialists	8.2	3.5	19.2	2.5	0.2	2.2
	Total N° Paediatricians	254					
	Pharmacists	8.6	10.7	10.3	4.9	6.6	9.0
	Occupational therapists	1.8	1.4	3.9	1.3	1.5	2.4
	Physiotherapists	3.2	3.0	4.3	3.2	2.0	3.7
Maternal Health							
	Antenatal 1 st visit coverage	74.9	64.7	67.7	54.9	73.8	57.2
	Antenatal 1 st visit before 20 weeks rate	73.2	71.3	71.5	70.4	79.5	73.6
	Delivery in 10 - 19 years in facility rate	17.3	18.8	15.8	18.8	19.8	18.3
	Mother postnatal visit within 6 days	74.9	70.1	69.9	69.5	80.2	67.3
	Maternal mortality ratio	88.4	82.1	111.3	58.7	49.9	60.5

Demographic Profile		Zululand	uMkhan yakude	King Cetshwayo	iLembe	Sisonke	eThekwini
	Total population	894 124	704 651	1 008 375	715 941	520 188	3 811 784
	Population density (people/km ²)	60.4	5.9	122.8	219.0	50.1	1 491.0
	N° children < 5 years	118 024	94 423	136 131	78 754	73 867	365 931
	N° children < 15 years	333 508	275 519	397 300	238 408	203 914	1 120 664
	% of population < 5 years	13.2	13.4	13.5	11.0	14.2	9.6
	% of population < 15 years	37.3	39.1	39.4	33.3	39.2	29.4
	Annual births	16 776.0	17 307.0	18 143.0	10 256.0	8 960.0	57 573.0
Household profile							
	% female headed households	53.8	54.2	49.8	47.1	53.9	42.1
	% children who are orphans						
	% children 5 - 6 years attending ECD centre						
	% children 7 - 17 years attending school						
	% population > 20 years with no schooling	24.0	32.7	24.0	22.0	25.0	8.6
	% population > 20 years with no matric	67.6	68.9	64.0	67.2	76.5	56.9
	% living in formal dwelling	62.1	70.1	70.6	73.9	41.7	81.5
	% households with piped water in dwelling	14.6	6.9	65.0	18.3	11.4	60.8
	% households using electricity for lighting	84.9	53.0	91.9	85.2	81.2	96.2
	% households with flush sanitation	18.7	7.5	27.4	20.4	18.4	69.3
	% households with weekly refuse removal	22.3	4.0	27.3	32.5	23.1	78.1
	Unemployment rate	41.1	42.8	34.7	30.6	36.0	30.2
	% children living in poverty						
	% children >30 mins from health facility						
Health services							
	N° Community Health Workers	1 068	817	551	942	845	1 681
	N° PHC clinics	73	58	63	34	39	114
	N° Community Health Centres	1	1	1	2	1	8
	N° District Hospitals	5	5	6	3	4	4
	N° Regional Hospitals	0	0	1	1	0	6
	N° Tertiary/Central Hospitals	0	0	1	0	0	2
	N° Other Hospitals	5	0	4	2	4	50
	% Ideal PHC clinics	87.5	78.0	56.3	83.3	70.0	60.7
	Medical aid coverage	5.2	5.0	8.7	8.6	5.6	18.9
Staffing (N° / 100,000 population)							
	Nursing Assistants	45.7	50.0	52.7	43.7	62.1	69.2
	Enrolled nurses	84.6	119.5	118.6	75.6	78.0	93.3
	Professional nurses	135.1	145.3	175.0	133.1	153.8	173.7
	Dental practitioners	1.4	1.3	1.6	2.0	1.0	1.2
	Medical practitioners	14.3	11.9	36.7	30.9	15.9	48.7
	Medical specialists	0.2	0.3	4.0	5.7	0.2	16.3
	Total N° Paediatricians						
	Pharmacists	6.3	6.6	7.8	7.8	6.9	10.4
	Occupational therapists	0.9	2.7	1.2	1.4	2.0	1.6
	Physiotherapists	2.2	2.5	1.4	3.2	2.4	4.1
Maternal Health							
	Antenatal 1 st visit coverage	74.3	82.0	69.5	77.1	62.8	92.3
	Antenatal 1 st visit before 20 weeks rate	74.7	76.2	72.2	76.1	72.9	71.9
	Delivery in 10 - 19 years in facility rate	22.2	21.4	17.0	18.4	22.0	13.8
	Mother postnatal visit within 6 days	75.4	82.7	84.5	73.3	76.0	73.9
	Maternal mortality ratio	92.9	60.0	125.4	65.4	57.3	102.4

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	74.1	81.4	90.5	91.1
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	53.9	56.0	57.3	56.6
Measles 2 nd dose coverage	84.5	77.5	77.9	82.6
Vitamin A dose 12 - 59 months coverage	51.9	68.8	70.8	68.2
Infant PCR test positive around 10 weeks rate	0.99	0.71	0.62	70.6
N° of HIV +ve children on ART	166 570	666 280	620 016	650 400
% with viral load suppression at 12 months	69.8	72.1	70.4	69.1
% children screened at facilities for TB	-	91.6	98.2	98.3
Diarrhoea incidence	8.8	10.6	7.9	7.4
Diarrhoea case fatality under 5 years rate	2.0	2.0	2.2	3.6
Pneumonia incidence	48.8	43.3	39.3	28.9
Pneumonia case fatality under 5 years rate	1.8	2.5	2.3	2.3
SAM incidence	3.8	2.4	1.9	1.9
SAM case fatality under 5 year rate	7.4	7.7	7.8	7.3
Infant Mortality				
Registered deaths (StatsSA)	3 198	3 004		
Hospital deaths (DHIS)	2 821	2 864	3 054	3 114
Hospital deaths (Child PIP)	650	622	576	
IMR (StatsSA)	17.2	16.1		
IHMR (DHIS)	6.5	6.6	10.0	11.1
IHMR (Child PIP)	3.0	2.9	2.8	
% deaths in health service	62.5	65.0		
N° deaths in District Hospital	1 118	1 139	1 153	1 138
N° deaths in Regional Hospital	1 301	1 288	1 422	1 497
N° deaths in Tertiary/Central Hospital	357	382	379	378
Under-5 Mortality				
Registered deaths (StatsSA)	4 357	3 972		
Hospital deaths (DHIS)	3 309	3 267	3 443	3 470
Hospital deaths (Child PIP)	978	924	827	
U5MR (StatsSA)	23.5	21.3		
IHMR (DHIS)	4.5	4.5	5.5	5.9
IHMR (Child PIP)	2.0	1.9	1.9	
% deaths in health service	55.8	58.0		
N° deaths in District Hospital	1 328	1 297	1 334	1 279
N° deaths in Regional Hospital	1 496	1 461	1 566	1 633
N° deaths in Tertiary/Central Hospital	439	454	442	452
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.3	7.5	6.6
Tuberculosis (A15-A19)		0.6	3.8	1.4
Other bacterial diseases (A30-A49)		1.5	1.3	1.4
HIV disease (B20-B24)		0.7	1.9	1.0
Other viral diseases (B25-B34)		0.8	1.3	0.9
Malnutrition (E40-E46)		2.5	4.2	2.9
Influenza and pneumonia (J09-J18)		7.4	9.3	7.9
Perinatal conditions 9P00-P96)		47.5	0.2	36.0
Congenital Disorders (Q00-Q99)		9.5	3.6	8.1
Ill defined/Miscellaneous conditions (R00-R99)		11.6	19.1	13.4
Non-natural (V01-Y98)		3.7	25.1	8.9
Other		8.0	22.5	11.6

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	48	50	54	
% children under-5 who died and had severe malnutrition	24.5	25.7	22.0	
% children under-5 who died and were HIV Infected or Exposed	37.1	35.3	31.3	
% Deaths within 24 hrs of admission to hospital	32.7	35.7	33.0	
Total MFR/death	3.0	3.1	3.0	
MFR - Clinical Personnel	1.7	1.6	1.6	
MFR - Administrator	0.4	0.4	0.4	
MFR - Caregiver	0.9	1.1	1.0	
% - Ward	27.4	22.6	24.5	
% - A&E	18.3	19.1	20.2	
% - Referring Facility & Transit	7.5	9.1	7.7	
% - Clinic/OPD	12.9	13.3	13.2	
% - Home	33.9	35.9	34.4	
Ward				
Inadequate investigations in ward			3	
Other clinical personnel modifiable factor in ward	1			
Insufficient notes on clinical care in ward (assess, manage, monitor)		2		
Inadequate response to new danger signs	3	3	2	
Lack of High Care / ICU facilities for children	2	1	1	
A&E/OPD				
Inadequate investigations (blood, x-ray, other) at A&E	1	1	2	
Not classified as critically ill despite presence of danger signs at A&E			3	
Emergency signs not recognised at A&E	2	3		
Inadequate history taken at A&E	3			
Inadequate notes on clinical care at A&E		2	1	
Referring facility				
Inadequate referral letter from referring facility	2			
Severity of child's condition incorrectly assessed at referring facility	1	1	1	
Delayed arrival of ambulance at referring facility		3	3	
No or delayed referral to higher level	3	2	2	
Clinic				
Child's growth problem inadequately identified or classified	2			
Danger signs missed at clinic/OPD	1	1	1	
Inadequate notes on clinical care (assess, classify, treat) at clinic		3	2	
Inadequate response to danger signs at clinic/OPD		2	3	
Delayed referral of child with danger signs, from clinic/OPD	3			
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
'Traditional remedy' with negative effect on child	3	3	3	

DC21 Ugu

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	65.3	66.4	80.5	82.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	46.5	45.8	52.1	51.8
Measles 2 nd dose coverage	86.1	68.5	69.0	68.3
Vitamin A dose 12 - 59 months coverage	51.8	60.2	60.6	54.8
Infant PCR test positive around 10 weeks rate	-	1.40	0.86	0.77
N ^o of HIV +ve children on ART	11 964	47 856	45 536	47 776
% with viral load suppression at 12 months	63.9	76.3	72.5	73.6
% children screened at facilities for TB	-	90.5	97.0	97.4
Diarrhoea incidence	9.9	13.3	6.2	5.4
Diarrhoea case fatality under 5 years rate	1.8	1.6	0.8	1.1
Pneumonia incidence	55.0	45.6	45.7	29.5
Pneumonia case fatality under 5 years rate	1.5	2.0	1.4	2.4
SAM incidence	4.3	2.1	1.9	1.1
SAM case fatality under 5 year rate				
Infant Mortality				
Registered deaths (StatsSA)	278	291		
Hospital deaths (DHIS)	188	187	228	210
Hospital deaths (Child PIP)	29	36	55	
IMR (StatsSA)	21.5	22.3		
IHMR (DHIS)	4.8	4.7	8.9	10.3
IHMR (Child PIP)	2.6	3.2	2.4	
% deaths in health service	74.5	70.8		
N ^o deaths in District Hospital	91	102	100	70
N ^o deaths in Regional Hospital	95	82	127	140
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	402	402		
Hospital deaths (DHIS)	222	222	256	228
Hospital deaths (Child PIP)	29	55	45	
U5MR (StatsSA)	31.0	30.8		
IHMR (DHIS)	3.6	3.5	4.8	5.1
IHMR (Child PIP)	1.9	2.0	1.7	
% deaths in health service	60.7	64.2		
N ^o deaths in District Hospital	112	126	118	77
N ^o deaths in Regional Hospital	108	93	137	151
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		4.5	3.6	4.2
Tuberculosis (A15-A19)		1.4	7.2	3.0
Other bacterial diseases (A30-A49)		1.7	1.8	1.7
HIV disease (B20-B24)		0.0	0.9	0.2
Other viral diseases (B25-B34)		1.7	1.8	1.7
Malnutrition (E40-E46)		1.7	5.4	2.7
Influenza and pneumonia (J09-J18)		10.0	14.4	11.2
Perinatal conditions 9P00-P96)		47.8	0.0	34.6
Congenital Disorders (Q00-Q99)		9.3	2.7	7.5
Ill defined/Miscellaneous conditions (R00-R99)		8.6	20.7	11.9
Non-natural (V01-Y98)		4.1	18.9	8.2
Other		9.3	22.5	12.9

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	3	4	4	
	% severe malnutrition	24.1	24.5	28.9	
	% HIV Infected or Exposed	44.8	31.1	25.0	
	% Deaths within 24 hrs	51.7	35.2	23.7	
	Total MFR/death	3.1	3.0	4.3	
	MFR - Clinical Personnel	1.5	1.8	3.0	
	MFR - Administrator	0.6	0.4	0.4	
	MFR - Caregiver	1.0	0.8	0.8	
	% - Ward	20.7	24.1	23.3	
	% - A&E	33.0	30.9	39.0	
	% - Referring Facility & Transit	5.6	5.9	1.8	
	% - Clinic/OPD	7.3	14.4	15.6	
	% - Home	33.5	24.7	20.2	
Ward					
	Lack of High Care and/or ICU facilities for children	1	2	1	
	Inadequate response to new danger signs	2	3		
	Basic laboratory investigations not available to ward 24 hours a day	3			
	Other clinical personnel modifiable factor in ward		1	2	
	Inadequate advice from higher level facility			3	
A&E/OPD					
	Inadequate notes on clinical care at A&E	1	2	2	
	Priority signs not recognised at A&E	2			
	Other clinical personnel modifiable factor at A&E	3	1	3	
	Emergency signs not recognised at A&E		3		
	Not classified as critically ill despite presence of danger signs at A&E			1	
Referring facility					
	Delayed arrival of ambulance at referring facility	1	1		
	Other administrator modifiable factor in transit care	2			
	Severity of child's condition incorrectly assessed at referring facility	3	2	3	
	Child not assessed properly by ambulance crew on entry into ambulance		3	2	
	Inadequate ambulance service from health facility to receiving hospital			1	
Clinic					
	Other clinical personnel modifiable factor at clinic/OPD	1	1	2	
	Danger signs missed at clinic/OPD	2		1	
	Delayed referral of child with danger signs, from clinic/OPD	3			
	Inadequate response to danger signs at clinic/OPD		2		
	Child's growth problem inadequately identified or classified		3		
	Inadequate notes on clinical care (assess, classify, treat) at clinic			3	
Home					
	Caregiver delayed seeking care	1	1	1	
	Caregiver did not recognise danger signs/severity of illness	2		3	
	Other caregiver modifiable factor at home/in community	3	2	2	
	'Traditional remedy' with negative effect on child		3		

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	53.7	63.3	82.1	85.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	50.6	53.3	55.8	52.8
Measles 2 nd dose coverage	68.9	65.0	66.7	70.7
Vitamin A dose 12 - 59 months coverage	53.4	61.6	67.6	69.1
Infant PCR test positive around 10 weeks rate	-	0.98	0.55	0.46
N ^o of HIV +ve children on ART	19 442	77 768	70 552	74 008
% with viral load suppression at 12 months	68.9	64.7	71.2	61.3
% children screened at facilities for TB	-	91.3	96.8	99.0
Diarrhoea incidence	9.2	10.7	6.3	10.8
Diarrhoea case fatality under 5 years rate	1.6	1.3	2.2	1.1
Pneumonia incidence	55.4	45.9	39.3	32.1
Pneumonia case fatality under 5 years rate	1.6	2.1	2.1	1.1
SAM incidence	3.4	4.0	1.6	1.3
SAM case fatality under 5 year rate	4.2	9.8	5.4	3.8
Infant Mortality				
Registered deaths (StatsSA)	333	328		
Hospital deaths (DHIS)	230	250	283	292
Hospital deaths (Child PIP)	86	103	75	
IMR (StatsSA)	23.1	21.8		
IHMR (DHIS)	8.9	8.0	10.3	12.5
IHMR (Child PIP)	3.3	2.7	2.4	
% deaths in health service	60.1	63.4		
N ^o deaths in District Hospital	67	63	69	57
N ^o deaths in Regional Hospital	63	106	141	129
N ^o deaths in Tertiary/Central Hospital	63	76	66	88
Under-5 Mortality				
Registered deaths (StatsSA)	458	443		
Hospital deaths (DHIS)	282	304	341	322
Hospital deaths (Child PIP)	140	172	124	
U5MR (StatsSA)	31.8	29.4		
IHMR (DHIS)	4.4	4.7	5.3	5.7
IHMR (Child PIP)	1.8	1.8	1.6	
% deaths in health service	52.2	56.2		
N ^o deaths in District Hospital	81	76	87	65
N ^o deaths in Regional Hospital	114	125	164	141
N ^o deaths in Tertiary/Central Hospital	83	98	83	98
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.7	4.3	6.1
Tuberculosis (A15-A19)		0.6	3.5	1.4
Other bacterial diseases (A30-A49)		1.8	0.9	1.6
HIV disease (B20-B24)		1.5	5.2	2.5
Other viral diseases (B25-B34)		1.2	1.7	1.4
Malnutrition (E40-E46)		2.4	5.2	3.2
Influenza and pneumonia (J09-J18)		6.4	7.0	6.5
Perinatal conditions 9P00-P96)		43.0	0.0	31.8
Congenital Disorders (Q00-Q99)		16.2	1.7	12.4
Ill defined/Miscellaneous conditions (R00-R99)		8.8	13.0	9.9
Non-natural (V01-Y98)		3.4	30.4	10.4
Other		7.9	27.0	12.9

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	48	50	54	
	% severe malnutrition	15.2	17.5	14.3	
	% HIV Infected or Exposed	31.0	27.5	26.6	
	% Deaths within 24 hrs	27.5	33.5	26.6	
	Total MFR/death	1.9	2.2	2.3	
	MFR - Clinical Personnel	1.0	1.2	1.2	
	MFR - Administrator	0.3	0.3	0.3	
	MFR - Caregiver	0.6	0.7	0.9	
	% - Ward	26.1	19.7	24.5	
	% - A&E	18.2	15.8	17.0	
	% - Referring Facility & Transit	7.9	20.7	10.3	
	% - Clinic/OPD	10.6	12.0	10.3	
	% - Home	37.3	31.8	37.9	
Ward					
	Inadequate response to new danger signs	1		3	
	Other clinical personnel modifiable factor in ward	2		1	
	Inadequate investigations in ward	3			
	New danger signs inadequately identified while in ward		1		
	Danger signs missed due to inadequate monitoring in ward		2		
	Insufficient notes on clinical care in ward (assess, manage, monitor)		3		
	Lack of High Care and/or ICU facilities for children			2	
A&E/OPD					
	No hand-over of critically ill child from admitting doctor to ward doctor	1	3		
	Other clinical personnel modifiable factor at A&E	2	2	2	
	Emergency signs not recognised at A&E	3		1	
	Lack of Intensive and High Care beds in own, or referral hospital		1		
	Inadequate notes on clinical care at A&E			3	
Referring facility					
	No or delayed referral to higher level	1	2	3	
	Inadequate referral letter from referring facility	2		2	
	Delayed arrival of ambulance at referring facility	3		1	
	Severity of child's condition incorrectly assessed at referring facility		1		
	Emergency or priority care not provided at referring hospital		3		
Clinic					
	Delayed referral of child with danger signs, from clinic/OPD	1			
	Child's growth problem inadequately identified or classified	2			
	Danger signs missed at clinic/OPD	3	1	2	
	Inadequate response to danger signs at clinic/OPD		2	1	
	Incorrect IMCI assesment at clinic/OPD		3		
	Other clinical personnel modifiable factor at clinic/OPD			3	
Home					
	Caregiver delayed seeking care	1	1	1	
	Caregiver did not recognise danger signs/severity of illness	2	2	2	
	'Traditional remedy' with negative effect on child	3	3	3	

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	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	59.9	66.9	85.8	85.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	67.7	67.5	65.7	71.5
Measles 2 nd dose coverage	73.9	66.6	75.7	73.4
Vitamin A dose 12 - 59 months coverage	87.4	84.1	77.4	66.5
Infant PCR test positive around 10 weeks rate	-	1.10	0.61	0.59
N ^o of HIV +ve children on ART	10 152	40 608	36 960	38 768
% with viral load suppression at 12 months	70.2	71.9	62.9	67.6
% children screened at facilities for TB	-	85.4	94.0	95.3
Diarrhoea incidence	4.6	5.3	3.8	5.0
Diarrhoea case fatality under 5 years rate	2.4	1.7	2.8	1.7
Pneumonia incidence	31.8	23.4	26.5	18.4
Pneumonia case fatality under 5 years rate	1.3	2.1	2.6	1.6
SAM incidence	2.6	1.8	1.5	2.0
SAM case fatality under 5 year rate	14.2	10.0	10.6	11.7
Infant Mortality				
Registered deaths (StatsSA)	305	280		
Hospital deaths (DHIS)	57	219	197	167
Hospital deaths (Child PIP)	54	38	52	
IMR (StatsSA)	23.8	23.2		
IHMR (DHIS)	8.0	7.4	9.7	9.2
IHMR (Child PIP)	3.8	3.2	3.4	
% deaths in health service	61.6	61.1		
N ^o deaths in District Hospital	82	99	71	55
N ^o deaths in Regional Hospital	123	120	126	112
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	408	389		
Hospital deaths (DHIS)	243	247	223	185
Hospital deaths (Child PIP)	74	76	50	
U5MR (StatsSA)	31.8	32.3		
IHMR (DHIS)	5.2	5.0	5.5	4.9
IHMR (Child PIP)	2.2	2.0	2.3	
% deaths in health service	54.4	52.2		
N ^o deaths in District Hospital	100	107	84	63
N ^o deaths in Regional Hospital	143	140	139	122
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		13.2	13.8	13.4
Tuberculosis (A15-A19)		0.0	6.4	1.8
Other bacterial diseases (A30-A49)		1.8	0.0	1.3
HIV disease (B20-B24)		0.7	0.0	0.5
Other viral diseases (B25-B34)		0.7	0.0	0.5
Malnutrition (E40-E46)		3.6	4.6	3.9
Influenza and pneumonia (J09-J18)		5.7	16.5	8.7
Perinatal conditions 9P00-P96)		46.4	0.9	33.7
Congenital Disorders (Q00-Q99)		7.9	1.8	6.2
Ill defined/Miscellaneous conditions (R00-R99)		9.6	16.5	11.6
Non-natural (V01-Y98)		2.9	15.6	6.4
Other		7.5	23.9	12.1

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	3	3	3	
	% severe malnutrition	40.0	37.8	36.8	
	% HIV Infected or Exposed	36.5	33.3	35.1	
	% Deaths within 24 hrs	32.9	37.8	37.5	
	Total MFR/death	4.1	3.5	4.5	
	MFR - Clinical Personnel	2.6	1.9	3.1	
	MFR - Administrator	0.3	0.4	0.5	
	MFR - Caregiver	1.2	1.3	1.0	
	% - Ward	31.5	24.7	35.7	
	% - A&E	24.1	23.4	22.9	
	% - Referring Facility & Transit	3.4	5.4	5.8	
	% - Clinic/OPD	7.7	8.9	14.3	
	% - Home	33.2	37.7	21.3	
Ward					
	Other clinical personnel modifiable factor in ward	1	1	1	
	Inadequate review of child with severe dehydration	2			
	Inadequate response to new danger signs	3			
	Other administrator modifiable factor in ward		2		
	Lack of High Care and/or ICU facilities for children in own and higher level facility		3		
	Inadequate `septic workup` in ward			2	
	No hand-over of critically ill child in ward			3	
A&E/OPD					
	Inadequate investigations (blood, x-ray, other) at A&E	1		2	
	Results of urgent investigations not obtained at A&E	2			
	Not classified as critically ill despite presence of danger signs at A&E	3			
	Inadequate physical examination at A&E		1		
	Other clinical personnel modifiable factor at A&E		2		
	Inadequate investigations (blood, x-ray, other) at A&E		3		
	Important cultures (blood, CSF, urine) not sent at A&E			1	
	Inadequate problem list compiled at A&E			3	
Referring facility					
	Inadequate investigations (blood, x-ray, other) at A&E	1	3	2	
	Results of urgent investigations not obtained at A&E	2			
	Not classified as critically ill despite presence of danger signs at A&E	3			
	Inadequate physical examination at A&E		1		
	Other clinical personnel modifiable factor at A&E		2		
	Important cultures (blood, CSF, urine) not sent at A&E			1	
	Inadequate problem list compiled at A&E			3	
Clinic					
	Delayed referral for severe malnutrition, weight loss, or growth faltering	1		1	
	Inadequate response to danger signs at clinic/OPD	2			
	Inadequate fluid management for diarrhoeal disease with dehydration	3			
	Danger signs missed at clinic/OPD		1		
	Other clinical personnel modifiable factor at clinic/OPD		2		
	Delayed referral of child with danger signs, from clinic/OPD		3		
	Inadequate referral letter from clinic to hospital			2	
	Insufficient assessment for chronic illness at clinic/OPD			3	
Home					
	Caregiver delayed seeking care	1	1	1	
	Caregiver did not recognise danger signs/severity of illness	2	2	2	
	Child not provided with adequate (quality and/or quantity) food at home		3		
	`Traditional remedy` with negative effect on child	3		3	

DC24 UMZINYATHI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	75.2	89.7	99.0	98.7
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	75.0	78.0	82.1	75.3
Measles 2 nd dose coverage	92.0	83.9	81.8	95.6
Vitamin A dose 12 - 59 months coverage	42.4	78.9	79.0	79.5
Infant PCR test positive around 10 weeks rate	-	0.79	0.36	0.43
N ^o of HIV +ve children on ART	8 006	32 024	29 136	30 568
% with viral load suppression at 12 months	69.9	66.5	73.1	71.4
% children screened at facilities for TB	-	97.1	95.6	96.4
Diarrhoea incidence	7.6	10.5	3.7	2.6
Diarrhoea case fatality under 5 years rate	1.6	1.3	3.9	1.9
Pneumonia incidence	30.2	20.1	16.6	7.8
Pneumonia case fatality under 5 years rate	1.6	1.6	1.6	3.7
SAM incidence	4.5	2.7	2.2	2.0
SAM case fatality under 5 year rate	4.5	9.1	8.3	10.7
Infant Mortality				
Registered deaths (StatsSA)	226	238		
Hospital deaths (DHIS)	146	146	159	145
Hospital deaths (Child PIP)	54	38	52	
IMR (StatsSA)	17.8	18.9		
IHMR (DHIS)	6.0	6.4	9.8	11.0
IHMR (Child PIP)	4.1	3.3	3.6	
% deaths in health service	63.3	65.1		
N ^o deaths in District Hospital	146	144	159	145
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	278	313		
Hospital deaths (DHIS)	180	175	178	162
Hospital deaths (Child PIP)	73	556	64	
U5MR (StatsSA)	22.5	24.9		
IHMR (DHIS)	4.2	4.1	5.3	5.6
IHMR (Child PIP)	2.4	1.9	2.0	
% deaths in health service	57.1	58.8		
N ^o deaths in District Hospital	177	173	178	162
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		8.8	6.7	8.3
Tuberculosis (A15-A19)		0.8	0.0	0.6
Other bacterial diseases (A30-A49)		1.3	1.3	1.3
HIV disease (B20-B24)		0.0	4.0	1.0
Other viral diseases (B25-B34)		0.0	6.7	1.6
Malnutrition (E40-E46)		5.0	5.3	5.1
Influenza and pneumonia (J09-J18)		9.2	9.3	9.3
Perinatal conditions 9P00-P96)		48.3	0.0	36.7
Congenital Disorders (Q00-Q99)		5.5	2.7	4.8
Ill defined/Miscellaneous conditions (R00-R99)		9.2	16.0	10.9
Non-natural (V01-Y98)		5.9	24.0	10.2
Other		5.9	24.0	10.2

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	2	2	2	
	% severe malnutrition	18.4	31.4	31.6	
	% HIV Infected or Exposed	33.3	34.3	23.7	
	% Deaths within 24 hrs	29.9	26.1	43.5	
	Total MFR/death	2.4	2.0	1.2	
	MFR - Clinical Personnel	1.0	0.7	0.6	
	MFR - Administrator	0.2	0.4	0.2	
	MFR - Caregiver	1.1	0.8	0.4	
	% - Ward	27.7	29.7	23.4	
	% - A&E	9.2	8.0	10.6	
	% - Referring Facility & Transit	1.0	4.3	16.0	
	% - Clinic/OPD	15.0	9.4	16.0	
	% - Home	47.1	48.6	34.0	
Ward					
	Lack of High Care and/or ICU facilities for children	1	2		
	Inadequate response to new danger signs	2	3		
	Inadequate antibiotics prescribed in ward	3			
	Basic laboratory investigations not available to ward 24 hours a day		1		
	Too much/too little, incorrect type of IV fluids given in ward			1	
	Inadequate monitoring of blood glucose in ward			2	
	Inadequate review of child with severe dehydration			3	
A&E/OPD					
	Inadequate history taken at A&E	1	2		
	Inadequate physical examination at A&E	2			
	Inadequate rehydration plan at A&E	3	1		
	Lack of Intensive and High Care beds in own, or referral hospital		3		
	No A&E staff trained in ETAT/BLS/APLS			1	
	Not classified as critically ill despite presence of danger signs at A&E			2	
	Inadequate record keeping system for A&E			3	
Referring facility					
	Delayed arrival of ambulance at referring facility	1			
	Inadequate monitoring and critical care equipment in referring facility	2			
	None	3			
	Caregiver not available to accompany child on transfer		1		
	No ambulance available for transfer from referring to receiving hospital		2	1	
	Major complications in ambulance not identified		3		
	Inadequate ambulance service from health facility to receiving hospital			2	
	No or inappropriate grade of ambulance (i.e. vehicle) available			3	
Clinic					
	Delayed referral of child with danger signs, from clinic/OPD	1			
	Child's growth problem inadequately identified or classified	2	2		
	Inadequate response to growth faltering or failure, at clinic/OPD	3	1		
	No clinic within reach of child's home or limited opening times		3		
	Did not arrive at clinic/OPD on day of referral/did not keep appointment			1	
	Inadequate notes on clinical care (assess, classify, treat) at clinic			2	
	Inadequate response to danger signs at clinic/OPD			3	
Home					
	Inappropriate treatment given at home with negative effect on the child	1		3	
	Caregiver delayed seeking care	2	1	1	
	'Traditional remedy' with negative effect on child	3	3	2	
	Caregiver did not recognise danger signs/severity of illness		2		

DC25 AMAJUBA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	67.6	78.6	87.1	87.8
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	57.6	60.3	60.5	60.2
Measles 2 nd dose coverage	77.6	70.6	81.3	80.3
Vitamin A dose 12 - 59 months coverage	51.9	59.2	63.4	64.9
Infant PCR test positive around 10 weeks rate	1.00	0.56	0.50	68.9
N ^o of HIV +ve children on ART	7 422	29 688	28 600	29 992
% with viral load suppression at 12 months	81.8	86.9	71.8	77.2
% children screened at facilities for TB	-	85.5	110.5	101.3
Diarrhoea incidence	20.3	8.5	5.2	5.5
Diarrhoea case fatality under 5 years rate	0.6	0.5	1.1	1.4
Pneumonia incidence	31.3	20.9	18.2	12.3
Pneumonia case fatality under 5 years rate	1.0	2.0	1.0	1.3
SAM incidence	3.5	1.9	1.3	1.1
SAM case fatality under 5 year rate	6.1	12.2	10.5	5.7
Infant Mortality				
Registered deaths (StatsSA)	219	211		
Hospital deaths (DHIS)	137	134	107	118
Hospital deaths (Child PIP)	24	16	21	
IMR (StatsSA)	25.5	24.7		
IHMR (DHIS)	6.0	6.5	7.3	8.0
IHMR (Child PIP)	1.6	1.6	1.6	
% deaths in health service	53.4	55.5		
N ^o deaths in District Hospital	7	2	6	2
N ^o deaths in Regional Hospital	129	132	96	110
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	278	255		
Hospital deaths (DHIS)	157	145	123	126
Hospital deaths (Child PIP)	34	22	30	
U5MR (StatsSA)	33.4	29.8		
IHMR (DHIS)	3.9	3.9	4.0	4.2
IHMR (Child PIP)	1.2	1.0	1.2	
% deaths in health service	49.1	49.8		
N ^o deaths in District Hospital	8	3	6	3
N ^o deaths in Regional Hospital	148	142	112	117
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.6	6.8	6.7
Tuberculosis (A15-A19)		0.0	2.3	0.4
Other bacterial diseases (A30-A49)		0.5	0.0	0.4
HIV disease (B20-B24)		0.0	2.3	0.4
Other viral diseases (B25-B34)		0.0	0.0	0.0
Malnutrition (E40-E46)		1.9	0.0	1.6
Influenza and pneumonia (J09-J18)		10.4	11.4	10.6
Perinatal conditions 9P00-P96)		46.0	0.0	38.0
Congenital Disorders (Q00-Q99)		10.9	6.8	10.2
Ill defined/Miscellaneous conditions (R00-R99)		10.0	6.8	9.4
Non-natural (V01-Y98)		1.9	22.7	5.5
Other		11.8	40.9	16.9

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	2	2	3	
	% severe malnutrition	39.0	35.7	36.4	
	% HIV Infected or Exposed	26.8	42.9	18.2	
	% Deaths within 24 hrs	36.6	32.1	33.3	
	Total MFR/death	3.6	5.0	5.8	
	MFR - Clinical Personnel	1.9	2.5	3.8	
	MFR - Administrator	0.6	0.4	0.8	
	MFR - Caregiver	1.1	2.1	1.2	
	% - Ward	33.1	27.9	31.4	
	% - A&E	16.9	13.6	20.9	
	% - Referring Facility & Transit	7.4	4.3	5.8	
	% - Clinic/OPD	12.2	15.0	18.8	
	% - Home	30.4	39.3	23.0	
Ward					
	Inadequate response to new danger signs	1			
	Lack of High Care and/or ICU facilities for children	2	2	1	
	Other administrator modifiable factor in ward	3			
	Danger signs missed due to inadequate monitoring in ward		1		
	Inadequate revision of fluid management plan, despite changing condition		3		
	Other clinical personnel modifiable factor in ward (COMMENT)			2	
	Inadequate antibiotics prescribed in ward			3	
A&E/OPD					
	Inadequate treatment of shock in A&E	1			
	Inadequate paediatric resuscitation area in casualty/OPD	2			
	Other administrator modifiable factor at A&E	3			
	Inadequate problem list compiled at A&E		1		
	Accompanying caregiver knew little about the child at A&E		2		
	Inadequate history taken at A&E		3		
	Inadequate emergency care plan in A&E			1	
	Inadequate notes on clinical care (assessment, management, monitoring)			2	
	Other clinical personnel modifiable factor at A&E			3	
Referring facility					
	Severity of child's condition incorrectly assessed at referring facility	1		3	
	Inadequate referral letter from referring facility	2			
	No high care bed in referring facility for pre-transfer care of critically ill child	3		2	
	Referring pathway and/or procedure not followed by referring facility		1		
	No or delayed referral to higher level		2		
	Inappropriate care or late referral from private sector/GP		3		
Clinic					
	Danger signs missed at clinic/OPD	1	3		
	Did not arrive at clinic/OPD on day of referral/did not keep appointment	2	1		
	Growth not plotted correctly on RTHC	3			
	Delayed referral for severe malnutrition, weight loss, or growth faltering		2		
	Child's growth problem inadequately identified or classified			1	
	Inadequate response to growth faltering or failure, at clinic/OPD			2	
	Inadequate response to danger signs at clinic/OPD			3	
Home					
	Caregiver did not recognise danger signs/severity of illness	1	1	2	
	Caregiver delayed seeking care	2	2	1	
	Inappropriate treatment given at home with negative effect on the child	3		3	
	Child not provided with adequate (quality and/or quantity) food at home		3		

DC26 ZULULAND

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	71.2	82.6	92.5	93.1
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	52.7	54.6	53.5	48.7
Measles 2 nd dose coverage	83.3	81.4	78.8	86.3
Vitamin A dose 12 - 59 months coverage	58.7	75.1	79.9	71.5
Infant PCR test positive around 10 weeks rate	-	0.93	0.79	0.87
N ^o of HIV +ve children on ART	14 752	59 008	54 336	56 992
% with viral load suppression at 12 months	74.9	74.1	69.2	72.7
% children screened at facilities for TB	-	89.8	92.0	90.4
Diarrhoea incidence	8.5	15.0	5.9	5.9
Diarrhoea case fatality under 5 years rate	3.2	5.0	2.5	4.0
Pneumonia incidence	28.5	15.0	11.6	7.6
Pneumonia case fatality under 5 years rate	3.2	4.7	3.3	3.3
SAM incidence	3.9	2.2	1.6	1.2
SAM case fatality under 5 year rate	15.7	8.7	7.6	18.3
Infant Mortality				
Registered deaths (StatsSA)	357	279		
Hospital deaths (DHIS)	254	251	262	324
Hospital deaths (Child PIP)	73	51	63	
IMR (StatsSA)	22.1	16.5		
IHMR (DHIS)	8.1	8.8	13.1	14.3
IHMR (Child PIP)	4.7	5.1	4.0	
% deaths in health service	54.3	55.6		
N ^o deaths in District Hospital	254	251	262	324
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	468	385		
Hospital deaths (DHIS)	303	274	301	356
Hospital deaths (Child PIP)	102	69	86	
U5MR (StatsSA)	28.9	22.8		
IHMR (DHIS)	5.7	5.6	6.8	7.7
IHMR (Child PIP)	3.1	2.8	2.6	
% deaths in health service	49.4	48.8		
N ^o deaths in District Hospital	303	274	301	356
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		7.5	9.4	8.1
Tuberculosis (A15-A19)		1.1	1.9	1.3
Other bacterial diseases (A30-A49)		3.2	3.8	3.4
HIV disease (B20-B24)		0.7	0.9	0.8
Other viral diseases (B25-B34)		1.1	0.0	0.8
Malnutrition (E40-E46)		3.6	3.8	3.6
Influenza and pneumonia (J09-J18)		11.1	7.5	10.1
Perinatal conditions 9P00-P96)		35.8	0.0	26.0
Congenital Disorders (Q00-Q99)		5.0	1.9	4.2
Ill defined/Miscellaneous conditions (R00-R99)		20.4	32.1	23.6
Non-natural (V01-Y98)		5.7	26.4	11.4
Other		4.7	12.3	6.8

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	2	2	3	
% severe malnutrition	39.0	35.7	36.4	
% HIV Infected or Exposed	26.8	42.9	18.2	
% Deaths within 24 hrs	36.6	32.1	33.3	
Total MFR/death	3.6	5.0	5.8	
MFR - Clinical Personnel	1.9	2.5	3.8	
MFR - Administrator	0.6	0.4	0.8	
MFR - Caregiver	1.1	2.1	1.2	
% - Ward	33.1	27.9	31.4	
% - A&E	16.9	13.6	20.9	
% - Referring Facility & Transit	7.4	4.3	5.8	
% - Clinic/OPD	12.2	15.0	18.8	
% - Home	30.4	39.3	23.0	
Ward				
Inadequate response to new danger signs	1			
Lack of High Care and/or ICU facilities for children	2	2	1	
Other administrator modifiable factor in ward	3			
Danger signs missed due to inadequate monitoring in ward		1		
Inadequate revision of fluid management plan, despite changing condition		3		
Other clinical personnel modifiable factor in ward (COMMENT)			2	
Inadequate antibiotics prescribed in ward			3	
A&E/OPD				
Inadequate treatment of shock in A&E	1			
Inadequate paediatric resuscitation area in casualty/OPD	2			
Other administrator modifiable factor at A&E	3			
Inadequate problem list compiled at A&E		1		
Accompanying caregiver knew little about the child at A&E		2		
Inadequate history taken at A&E		3		
Inadequate emergency care plan in A&E			1	
Inadequate notes on clinical care (assessment, management, monitoring)			2	
Other clinical personnel modifiable factor at A&E			3	
Referring facility				
Severity of child's condition incorrectly assessed at referring facility	1		3	
Inadequate referral letter from referring facility	2			
No high care bed in referring facility for pre-transfer care of critically ill child	3		2	
Referring pathway and/or procedure not followed by referring facility		1		
No or delayed referral to higher level		2		
Inappropriate care or late referral from private sector/GP		3		
Clinic				
Danger signs missed at clinic/OPD	1	3		
Did not arrive at clinic/OPD on day of referral/did not keep appointment	2	1		
Growth not plotted correctly on RTHC	3			
Delayed referral for severe malnutrition, weight loss, or growth faltering		2		
Child's growth problem inadequately identified or classified			1	
Inadequate response to growth faltering or failure, at clinic/OPD			2	
Inadequate response to danger signs at clinic/OPD			3	
Home				
Caregiver did not recognise danger signs/severity of illness	1	1	2	
Caregiver delayed seeking care	2	2	1	
Inappropriate treatment given at home with negative effect on the child	3		3	
Child not provided with adequate (quality and/or quantity) food at home		3		

DC27 UMKHANYAKUDE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	74.0	85.5	92.8	97.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	59.2	53.3	60.0	59.9
Measles 2 nd dose coverage	89.3	82.7	83.9	90.7
Vitamin A dose 12 - 59 months coverage	37.9	69.9	74.4	73.1
Infant PCR test positive around 10 weeks rate	-	1.00	0.83	0.47
N ^o of HIV +ve children on ART	9 942	39 768	38 912	40 808
% with viral load suppression at 12 months	68.9	72.6	76.0	74.2
% children screened at facilities for TB	-	82.7	88.9	94.2
Diarrhoea incidence	6.7	9.8	4.7	4.6
Diarrhoea case fatality under 5 years rate	2.3	1.4	1.7	1.7
Pneumonia incidence	39.5	28.9	20.6	15.6
Pneumonia case fatality under 5 years rate	1.9	3.0	2.7	1.9
SAM incidence	3.4	2.3	1.8	1.4
SAM case fatality under 5 year rate	5.6	5.0	11.4	6.6
Infant Mortality				
Registered deaths (StatsSA)	181	125		
Hospital deaths (DHIS)	155	182	208	186
Hospital deaths (Child PIP)	54	32	15	
IMR (StatsSA)	12.6	9		
IHMR (DHIS)	7.6	12.3	13.0	12.4
IHMR (Child PIP)	2.8	2.6	2.5	
% deaths in health service	68.5	73.6		
N ^o deaths in District Hospital	151	168	199	182
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	248	176		
Hospital deaths (DHIS)	183	204	224	203
Hospital deaths (Child PIP)	78	45	18	
U5MR (StatsSA)	17.2	12.7		
IHMR (DHIS)	4.3	6.5	6.1	5.7
IHMR (Child PIP)	2.0	1.6	1.4	
% deaths in health service	64.5	61.9		
N ^o deaths in District Hospital	179	190	215	199
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		8.0	0.0	5.7
Tuberculosis (A15-A19)		0.0	3.9	1.1
Other bacterial diseases (A30-A49)		0.0	2.0	0.6
HIV disease (B20-B24)		3.2	0.0	2.3
Other viral diseases (B25-B34)		0.8	0.0	0.6
Malnutrition (E40-E46)		2.4	2.0	2.3
Influenza and pneumonia (J09-J18)		5.6	3.9	5.1
Perinatal conditions 9P00-P96)		44.0	0.0	31.3
Congenital Disorders (Q00-Q99)		12.0	7.8	10.8
Ill defined/Miscellaneous conditions (R00-R99)		12.0	31.4	17.6
Non-natural (V01-Y98)		7.2	27.5	13.1
Other		4.8	21.6	9.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	5	5	
% severe malnutrition	14.4	22.0	0.0	
% HIV Infected or Exposed	45.6	40.0	50.0	
% Deaths within 24 hrs	26.7	32.6	35.3	
Total MFR/death	1.0	1.9	2.5	
MFR - Clinical Personnel	0.4	0.6	0.8	
MFR - Administrator	0.1	0.4	0.8	
MFR - Caregiver	0.6	0.9	0.9	
% - Ward	26.9	27.1	16.3	
% - A&E	7.5	12.5	18.4	
% - Referring Facility & Transit	5.4	7.3	4.1	
% - Clinic/OPD	7.5	6.3	14.3	
% - Home	52.7	46.9	46.9	
Ward				
Other clinical personnel modifiable factor in ward	1			
Other caregiver modifiable factor in ward	2			
Inadequate response to new danger signs	3			
Lack of High Care and/or ICU facilities for children		1	1	
Lack of experienced doctors (post Community Service), for children's ward		2		
Inadequate advice from higher level facility		3		
Inadequate response to non-responding ARI/pneumonia			2	
No team decision for terminal care			3	
A&E/OPD				
Inadequate rehydration plan at A&E	1			
Emergency signs not recognised at A&E	2			
Not classified as critically ill despite presence of danger signs at A&E	3		1	
Correct oxygen therapy not prescribed or not given at A&E		1		
Inadequate notes on clinical care (assessment, management, monitoring)		2		
Inadequate treatment of shock in A&E (fluid type, amount, rate)		3		
Child not triaged at A&E (spent time in a queue)			2	
Inadequate assessment of dehydration at A&E			3	
Referring facility				
No or delayed referral to higher level	1			
No high care bed in referring facility for pre-transfer care of child	2			
Other clinical personnel modifiable factor in transit care	3			
Inadequate monitoring and critical care equipment in referring facility		1		
No or delayed referral to higher level		2		
Inadequate ambulance service from health facility to receiving hospital		3		
No ambulance available for transfer from referring to receiving hospital			1	
Clinic				
Delayed referral of child with danger signs, from clinic/OPD	1		3	
Other caregiver modifiable factor at clinic/OPD (COMMENT)	2			
Inadequate response to danger signs at clinic/OPD	3			
Did not arrive at clinic/OPD on day of referral/did not keep appointment		1		
HIV result not obtained/documented at clinic/OPD		2		
Inadequate assessment for household TB contact at clinic/OPD		3		
Severity of dehydration incorrectly assessed at clinic/OPD			1	
Danger signs missed at clinic/OPD			2	
Home				
'Traditional remedy' with negative effect on child	1	2		
Caregiver did not recognise danger signs/severity of illness	2		2	
Caregiver delayed seeking care	3	1		
Inappropriate treatment given at home with negative effect on the child		3	1	
Primary caregiver unemployed, or no household breadwinner			3	

DC28 KING CETSHWAYO

		2016/17	2017/18	2018/19	2019/20
Child Health					
	Immunisation under 1 year coverage	71.5	80.1	85.1	84.6
	Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	55.7	58.5	55.2	55.4
	Measles 2 nd dose coverage	84.5	83.1	76.3	79.6
	Vitamin A dose 12 - 59 months coverage	33.3	70.9	70.9	60.3
	Infant PCR test positive around 10 weeks rate	-	1.00	0.54	0.45
	N° of HIV +ve children on ART	14 864	59 456	55 376	58 096
	% with viral load suppression at 12 months	75.5	73.8	72.9	67.8
	% children screened at facilities for TB	-	93.4	97.8	98.3
	Diarrhoea incidence	7.2	9.9	6.2	8.2
	Diarrhoea case fatality under 5 years rate	1.3	3.3	2.1	0.9
	Pneumonia incidence	49.6	46.4	26.1	22.4
	Pneumonia case fatality under 5 years rate	1.3	5.5	3.2	3.7
	SAM incidence	49.6	46.4	26.1	22.4
	SAM case fatality under 5 year rate	7.2	9.6	5.8	8.1
Infant Mortality					
	Registered deaths (StatsSA)	169	196		
	Hospital deaths (DHIS)	302	327	393	342
	Hospital deaths (Child PIP)	78	62	60	
	IMR (StatsSA)	9.5	11.0		
	IHMR (DHIS)	5.9	5.4	13.8	11.6
	IHMR (Child PIP)	4.0	3.9	5.9	
	% deaths in health service	50.3	59.7		
	N° deaths in District Hospital	61	70	86	73
	N° deaths in Regional Hospital	236	249	289	260
	N° deaths in Tertiary/Central Hospital	-	4	-	-
Under-5 Mortality					
	Registered deaths (StatsSA)	254	276		
	Hospital deaths (DHIS)	360	392	436	383
	Hospital deaths (Child PIP)	122	91	78	
	U5MR (StatsSA)	14.3	15.5		
	IHMR (DHIS)	4.7	4.6	7.6	6.4
	IHMR (Child PIP)	3.0	2.7	3.9	
	% deaths in health service	46.1	52.2		
	N° deaths in District Hospital	76	83	104	88
	N° deaths in Regional Hospital	272	299	314	279
	N° deaths in Tertiary/Central Hospital	7	6	-	7
Cause of Death - 2017			Under 1	1-4 years	Under 5
	Intestinal Infections (A00 - A09)		2.0	7.5	3.6
	Tuberculosis (A15-A19)		1.0	2.5	1.4
	Other bacterial diseases (A30-A49)		2.0	2.5	2.2
	HIV disease (B20-B24)		0.0	1.3	0.4
	Other viral diseases (B25-B34)		1.0	1.3	1.1
	Malnutrition (E40-E46)		2.6	5.0	3.3
	Influenza and pneumonia (J09-J18)		6.6	6.3	6.5
	Perinatal conditions 9P00-P96)		43.9	0.0	31.2
	Congenital Disorders (Q00-Q99)		7.1	2.5	5.8
	Ill defined/Miscellaneous conditions (R00-R99)		20.9	25.0	22.1
	Non-natural (V01-Y98)		6.1	27.5	12.3
	Other		6.6	18.8	10.1

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	6	6	8	
% severe malnutrition	21.5	28.2	25.6	
% HIV Infected or Exposed	36.1	35.5	32.2	
% Deaths within 24 hrs	22.9	33.6	28.7	
Total MFR/death	2.4	2.9	2.5	
MFR - Clinical Personnel	1.4	1.4	1.5	
MFR - Administrator	0.5	0.6	0.3	
MFR - Caregiver	0.5	1.0	0.7	
% - Ward	35.7	25.9	24.8	
% - A&E	25.4	16.1	13.5	
% - Referring Facility & Transit	8.4	13.6	15.8	
% - Clinic/OPD	11.2	12.3	14.9	
% - Home	19.3	32.2	31.1	
Ward				
Lack of High Care and/or ICU facilities for children	1	2		
Other administrator modifiable factor in ward	2		1	
Other clinical personnel modifiable factor in ward	3	1		
RTHC information not present in child's folder		3		
Inadequate response to new danger signs			2	
Inadequate revision of fluid management plan, despite changing condition			3	
A&E/OPD				
Inadequate physical examination at A&E	1			
Admission records incomplete or inappropriate	2	1		
Inadequate history taken at A&E	3		2	
Caregiver did not bring RTHC and/or referral letter to A&E		2		
No hand-over of critically ill child from admitting doctor to ward doctor		3		
Inadequate notes on clinical care (assessment, management, monitoring)			1	
Not classified as critically ill despite presence of danger signs at A&E			3	
Referring facility				
No or delayed referral to higher level	1	1		
Severity of child's condition incorrectly assessed at referring facility	2	2	1	
Child not assessed properly by ambulance crew on entry into ambulance	3			
Inadequate referral letter from referring facility		3		
Child not re-assessed at time of departure from referring facility			2	
Emergency or priority care not provided at referring hospital			3	
Clinic				
Inadequate response to growth faltering or failure, at clinic/OPD	1			
Delayed referral for severe malnutrition, weight loss, or growth faltering from clinic	2		1	
Inadequate assessment for HIV (IMCI not used) at clinic/OPD	3			
Inadequate response to danger signs at clinic/OPD		1		
Danger signs missed at clinic/OPD		2		
Inadequate notes on clinical care (assess, classify, treat) at clinic		3		
Inadequate fluid management for diarrhoeal disease with dehydration			2	
Other clinical personnel modifiable factor at clinic/OPD (COMMENT)			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2		
Other caregiver modifiable factor at home/in community	3		2	
'Traditional remedy' with negative effect on child		3		
Child not provided with adequate (quality and/or quantity) food at home			3	

DC29 ILEMBE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	76.5	86.2	98.3	101.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	60.1	64.4	67.8	60.0
Measles 2 nd dose coverage	97.0	76.6	79.5	94.7
Vitamin A dose 12 - 59 months coverage	49.2	76.7	84.7	78.2
Infant PCR test positive around 10 weeks rate	-	1.50	0.94	0.65
N ^o of HIV +ve children on ART	9 100	36 400	34 312	36 000
% with viral load suppression at 12 months	63.2	66.2	63.4	63.9
% children screened at facilities for TB	-	96.7	99.1	100.8
Diarrhoea incidence	6.7	9.0	4.9	5.3
Diarrhoea case fatality under 5 years rate	2.9	1.3	2.6	3.5
Pneumonia incidence	51.1	29.2	23.9	19.9
Pneumonia case fatality under 5 years rate	1.8	1.4	2.7	3.4
SAM incidence	4.5	2.6	2.5	2.7
SAM case fatality under 5 year rate	3.4	3.2	4.6	7.2
Infant Mortality				
Registered deaths (StatsSA)	200	156		
Hospital deaths (DHIS)	165	177	161	169
Hospital deaths (Child PIP)	44	44	33	
IMR (StatsSA)	21.2	15.8		
IHMR (DHIS)	7.2	7.4	10.6	11.8
IHMR (Child PIP)	2.9	2.4	2.0	
% deaths in health service	68.0	75.0		
N ^o deaths in District Hospital	24	25	20	26
N ^o deaths in Regional Hospital	138	151	137	134
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	248	207		
Hospital deaths (DHIS)	178	192	187	193
Hospital deaths (Child PIP)	55	59	54	
U5MR (StatsSA)	26.3	21.0		
IHMR (DHIS)	4.7	5.0	6.2	6.9
IHMR (Child PIP)	2.0	1.6	1.9	
% deaths in health service	62.5	66.7		
N ^o deaths in District Hospital	29	27	27	33
N ^o deaths in Regional Hospital	146	164	155	149
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.8	5.9	4.3
Tuberculosis (A15-A19)		0.0	9.8	2.4
Other bacterial diseases (A30-A49)		2.6	2.0	2.4
HIV disease (B20-B24)		0.0	2.0	0.5
Other viral diseases (B25-B34)		1.9	0.0	1.4
Malnutrition (E40-E46)		0.6	5.9	1.9
Influenza and pneumonia (J09-J18)		8.3	11.8	9.2
Perinatal conditions 9P00-P96)		57.1	0.0	43.0
Congenital Disorders (Q00-Q99)		10.9	7.8	10.1
Ill defined/Miscellaneous conditions (R00-R99)		5.1	19.6	8.7
Non-natural (V01-Y98)		1.9	27.5	8.2
Other		7.7	7.8	7.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	4	4	
% severe malnutrition	28.1	20.5	19.1	
% HIV Infected or Exposed	20.3	27.4	30.9	
% Deaths within 24 hrs	21.9	46.0	32.1	
Total MFR/death	2.7	2.3	3.6	
MFR - Clinical Personnel	1.2	0.9	2.0	
MFR - Administrator	0.5	0.4	0.8	
MFR - Caregiver	1.0	1.1	0.9	
% - Ward	14.1	10.8	24.7	
% - A&E	6.5	12.6	19.3	
% - Referring Facility & Transit	24.7	11.4	12.3	
% - Clinic/OPD	11.2	16.2	17.7	
% - Home	43.5	49.1	25.9	
Ward				
New danger signs inadequately identified while in ward	1			
No team decision for terminal care	2			
Inadequate response to new danger signs	3		2	
Inadequate revision of fluid management plan, despite changing condition		1		
Lack of High Care and/or ICU facilities for children		2		
Inadequate initiation of TB treatment		3		
Other clinical personnel modifiable factor in ward			1	
Inadequate advice from higher level facility			3	
A&E/OPD				
Inadequate record keeping system for A&E	1			
Admission records incomplete or inappropriate	2			
Inadequate investigations (blood, x-ray, other) at A&E	3			
Critical airway not monitored at A&E		1		
No A&E staff trained in ETAT/BLS/APLS		2		
No children's coma score sheet available at A&E		3		
Inadequate notes on clinical care at A&E			1	
Inadequate communication by staff to caregiver at A&E			2	
Inadequate emergency care plan in A&E			3	
Referring facility				
Child not monitored correctly in ambulance	1			
Child not managed correctly in ambulance	2	2		
Delayed arrival of ambulance at referring facility	3	1	1	
Severity of child's condition incorrectly assessed at referring facility		3	3	
Inadequate referral letter from referring facility			2	
Clinic				
Child's growth problem inadequately identified or classified	1			
Delayed referral for severe malnutrition, weight loss, or growth faltering	2	1		
Inadequate fluid management for diarrhoeal disease with dehydration	3			
Incorrect IMCI assesment at clinic/OPD		2		
Inadequate referral letter from clinic to hospital		3		
Danger signs missed at clinic/OPD			1	
Inadequate response to danger signs at clinic/OPD			2	
No emergency transport from clinic to hospital			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
Child not provided with adequate (quality and/or quantity) food at home	3	3		
'Traditional remedy' with negative effect on child			3	

DC43 HARRY GWALA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	63.6	62.9	73.4	81.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	49.4	55.6	61.3	61.5
Measles 2 nd dose coverage	93.2	66.6	71.3	77.2
Vitamin A dose 12 - 59 months coverage	62.9	65.9	63.1	69.6
Infant PCR test positive around 10 weeks rate	-	0.84	0.55	0.71
N ^o of HIV +ve children on ART	7 526	30 104	28 872	30 288
% with viral load suppression at 12 months	60.4	65.7	69.7	73.4
% children screened at facilities for TB	-	90.6	95.8	98.9
Diarrhoea incidence	4.8	7.6	3.9	7.6
Diarrhoea case fatality under 5 years rate	2.5	2.4	3.9	1.8
Pneumonia incidence	46.2	41.8	39.0	33.9
Pneumonia case fatality under 5 years rate	2.1	1.7	1.9	1.5
SAM incidence	3.7	3.0	3.7	2.2
SAM case fatality under 5 year rate	7.5	3.6	9.6	7.7
Infant Mortality				
Registered deaths (StatsSA)	241	118		
Hospital deaths (DHIS)	139	142	103	119
Hospital deaths (Child PIP)	29	36	55	
IMR (StatsSA)	26.1	13.6		
IHMR (DHIS)	8.3	8.8	7.5	8.4
IHMR (Child PIP)	4.3	3.9	2.3	
% deaths in health service		55.9		
N ^o deaths in District Hospital	138	142	103	119
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	351	173		
Hospital deaths (DHIS)	157	164	123	135
Hospital deaths (Child PIP)	45	55	71	
U5MR (StatsSA)	38.1	19.9		
IHMR (DHIS)	5.1	5.5	4.1	4.7
IHMR (Child PIP)	2.6	2.7	2.3	
% deaths in health service	55.3	46.2		
N ^o deaths in District Hospital	156	164	123	135
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		11.9	14.5	12.7
Tuberculosis (A15-A19)		0.8	1.8	1.2
Other bacterial diseases (A30-A49)		0.0	0.0	0.0
HIV disease (B20-B24)		0.0	1.8	0.6
Other viral diseases (B25-B34)		1.7	1.8	1.7
Malnutrition (E40-E46)		3.4	1.8	2.9
Influenza and pneumonia (J09-J18)		15.3	12.7	14.5
Perinatal conditions 9P00-P96)		42.4	0.0	28.9
Congenital Disorders (Q00-Q99)		0.8	3.6	1.7
Ill defined/Miscellaneous conditions (R00-R99)		9.3	16.4	11.6
Non-natural (V01-Y98)		5.9	23.6	11.6
Other		8.5	21.8	12.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	4	4	
% severe malnutrition	33.3	23.8	17.6	
% HIV Infected or Exposed	29.6	38.1	40.0	
% Deaths within 24 hrs	44.4	31.1	41.5	
Total MFR/death	4.0	3.0	3.3	
MFR - Clinical Personnel	2.3	1.4	1.3	
MFR - Administrator	0.5	0.5	0.7	
MFR - Caregiver	1.2	1.0	1.3	
% - Ward	27.6	29.9	22.2	
% - A&E	22.1	26.2	22.2	
% - Referring Facility & Transit	10.1	2.1	8.8	
% - Clinic/OPD	6.5	5.3	6.3	
% - Home	33.6	36.4	40.5	
Ward				
Doctor not called for critically ill child in ward	1			
Insufficient notes on clinical care in ward (assess, manage, monitor)	2			
Inadequate history taken in ward	3			
Inadequate response to new danger signs		1		
New danger signs inadequately identified while in ward		2	3	
Inadequate daily 'Care Plan' in ward		3		
Other clinical personnel modifiable factor in ward			1	
Other administrator modifiable factor in ward			2	
A&E/OPD				
Emergency signs not recognised at A&E	1	3		
Other clinical personnel modifiable factor at A&E	2			
Admission records incomplete or inappropriate	3	2		
Inadequate investigations (blood, x-ray, other) at A&E		1		
Other administrator modifiable factor at A&E			1	
Lack of experienced doctors at A&E			2	
Inadequate history taken at A&E			3	
Referring facility				
Emergency or priority care not provided at referring hospital	1			
No or inappropriate grade of ambulance (i.e. vehicle) available	2			
No or delayed referral to higher level	3	1	1	
Other administrator modifiable factor in transit care		2		
Delayed arrival of ambulance at referring facility			2	
Inadequate notes on transit care			3	
Clinic				
Inadequate response to growth faltering or failure, at clinic/OPD	1			
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	2			
No clear documentation of child's HIV status at clinic/OPD	3		1	
Growth not plotted correctly on RTHC		1		
Initiation of ART at clinic/OPD delayed due to lost / delayed investigations		2		
Lack of standardised case managemnt protocols in clinic/OPD		3		
Inadequate response to danger signs at clinic/OPD			2	
Child's growth problem inadequately identified or classified			3	
Home				
Caregiver delayed seeking care	1	1	1	
Child not provided with adequate (quality and/or quantity) food at home	2	3		
'Traditional remedy' with negative effect on child	3		3	
Caregiver did not recognise danger signs/severity of illness		2	2	

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	92.8	97.2	100.0	97.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	45.9	49.7	49.9	51.0
Measles 2 nd dose coverage	88.0	85.8	82.9	86.8
Vitamin A dose 12 - 59 months coverage	50.7	64.7	68.0	68.5
Infant PCR test positive around 10 weeks rate	-	0.85	0.79	0.69
N ^o of HIV +ve children on ART	53 400	213 600	197 424	207 104
% with viral load suppression at 12 months	69.0	73.0	70.8	67.2
% children screened at facilities for TB	-	94.5	104.3	102.3
Diarrhoea incidence	10.0	11.8	15.2	10.4
Diarrhoea case fatality under 5 years rate	1.8	2.5	1.9	9.4
Pneumonia incidence	65.1	71.7	72.2	52.3
Pneumonia case fatality under 5 years rate	2.0	2.9	2.3	2.3
SAM incidence	4.4	2.4	2.0	2.3
SAM case fatality under 5 year rate	6.2	9.1	8.6	4.9
Infant Mortality				
Registered deaths (StatsSA)	682	782		
Hospital deaths (DHIS)	895	845	948	1 040
Hospital deaths (Child PIP)	123	131	123	
IMR (StatsSA)	11.8	13.4		
IHMR (DHIS)	5.8	5.7	8.8	10.9
IHMR (Child PIP)	1.5	1.8	1.6	
% deaths in health service	66.3	70.3		
N ^o deaths in District Hospital	97	73	78	85
N ^o deaths in Regional Hospital	484	448	506	612
N ^o deaths in Tertiary/Central Hospital	294	302	313	290
Under-5 Mortality				
Registered deaths (StatsSA)	938	953		
Hospital deaths (DHIS)	1 042	944	1 046	1 175
Hospital deaths (Child PIP)	206	131	193	
U5MR (StatsSA)	16.3	16.4		
IHMR (DHIS)	4.4	3.9	5.1	6.3
IHMR (Child PIP)	1.4	1.3	1.3	
% deaths in health service	59.9	65.6		
N ^o deaths in District Hospital	107	74	91	98
N ^o deaths in Regional Hospital	565	498	545	674
N ^o deaths in Tertiary/Central Hospital	349	350	359	347
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.6	8.2	4.4
Tuberculosis (A15-A19)		0.5	2.9	0.9
Other bacterial diseases (A30-A49)		0.9	0.6	0.8
HIV disease (B20-B24)		1.2	1.8	1.3
Other viral diseases (B25-B34)		0.1	1.2	0.3
Malnutrition (E40-E46)		1.5	4.1	2.0
Influenza and pneumonia (J09-J18)		4.0	4.7	4.1
Perinatal conditions 9P00-P96)		54.2	0.6	44.6
Congenital Disorders (Q00-Q99)		11.0	5.3	10.0
Ill defined/Miscellaneous conditions (R00-R99)		11.8	14.6	12.3
Non-natural (V01-Y98)		1.8	29.8	6.8
Other		9.5	26.3	12.5

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	10	10	10	
	% severe malnutrition	28.3	28.4	24.3	
	% HIV Infected or Exposed	39.8	38.6	30.4	
	% Deaths within 24 hrs	38.9	40.3	30.6	
	Total MFR/death	3.4	3.7	2.4	
	MFR - Clinical Personnel	1.8	2.0	1.0	
	MFR - Administrator	0.5	0.5	0.4	
	MFR - Caregiver	1.0	1.2	1.0	
	% - Ward	21.7	19.8	18.6	
	% - A&E	13.4	17.3	17.1	
	% - Referring Facility & Transit	10.6	9.1	8.4	
	% - Clinic/OPD	21.0	17.3	13.4	
	% - Home	33.4	36.5	42.5	
Ward					
	Other clinical personnel modifiable factor in ward	1	1	3	
	Lack of High Care and/or ICU facilities for children	2			
	Other administrator modifiable factor in ward	3	2	2	
	Lack of High Care and/or ICU facilities for children		3	1	
A&E/OPD					
	Inadequate treatment of shock in A&E (fluid type, amount, rate intraosseous line)	1	3		
	Other administrator modifiable factor at A&E	2	2	2	
	Emergency signs not recognised at A&E	3		3	
	Other clinical personnel modifiable factor at A&E		1		
	Lack of Intensive and High Care beds in own, or referral hospital			1	
Referring facility					
	Severity of child's condition incorrectly assessed at referring facility	1	1	1	
	Inadequate referral letter from referring facility	2			
	Emergency or priority care not provided at referring hospital	3			
	Delayed arrival of ambulance at referring facility		2		
	Child not re-assessed at time of departure from referring facility		3	2	
	No or delayed referral to higher level			3	
Clinic					
	Danger signs missed at clinic/OPD	1	1	1	
	Inadequate response to danger signs at clinic/OPD	2	2		
	Inadequate response to growth faltering or failure, at clinic/OPD	3			
	Inadequate assessment for HIV (IMCI not used) at clinic/OPD		3		
	Other clinical personnel modifiable factor at clinic/OPD			2	
	Delayed referral for severe malnutrition, weight loss, growth faltering			3	
Home					
	Caregiver did not recognise danger signs/severity of illness	1	2	2	
	Caregiver delayed seeking care	2	1	1	
	Other caregiver modifiable factor at home/in community	3			
	'Traditional remedy' with negative effect on child		3		
	Inappropriate treatment given at home with negative effect on the child			3	

SOCIO-DEMOGRAPHIC PROFILE

	Province	Mopani	Vhembe	Capricorn	Waterberg	Sekhukhune
Demographic Profile						
Total population	6 044 413	1 238 398	1 477 702	1 350 111	725 473	1 252 729
Population density (people/km ²)	48.1	61.9	57.7	62.2	16.2	92.6
N ^o children < 5 years	671 145	138 701	171 413	141 762	73 273	147 822
N ^o children < 15 years	1 994 848	393 811	500 941	418 534	215 465	425 928
% of population < 5 years	11.1	11.2	11.6	10.5	10.1	11.8
% of population < 15 years	33.0	31.8	33.9	31.0	29.7	34.0
Annual births	123 414	25 343	27 906	30 307	14 346	25 512
Household profile						
% female headed households	48.8	49.2	51.00	49.1	40.9	51.2
% children who are orphans	12.2					
% children 5 - 6 years attending ECD centre	98.6					
% children 7 - 17 years attending school	99.6					
% population > 20 years with no schooling	13.9	17.1	14.40	12.4	7.1	16.0
% population > 20 years with no matric	64.7	75.2	75.00	70.1	72.4	75.7
% living in formal dwelling	88.9	90.7	86.30	93.2	85	87.6
% households with piped water in dwelling	13.1	14.2	8.00	20.2	25.9	5.6
% households using electricity for lighting	90.3	94.6	94.80	95.3	86.4	89.7
% households with flush sanitation	57.0	14.1	16.0	30.2	43.8	5.9
% households with weekly refuse removal	21.9	15.6	16.50	30.4	44.4	9.0
Unemployment rate	38.9	39.4	38.70	37.2	28.1	50.9
% children living in poverty	81.2					
% children >30 mins from health facility	22.6					
Health services						
N ^o Community Health Workers	10 570	2 298	2 160	1 978	1 413	2 720
N ^o PHC clinics	454	97	115	96	60	86
N ^o Community Health Centres	26	8	8	4	3	3
N ^o District Hospitals	30	6	6	6	7	5
N ^o Regional Hospitals	5	1	1	0	1	2
N ^o Tertiary/Central Hospitals	2	0	0	2	0	0
N ^o Other Hospitals	14	3	3	4	8	0
% Ideal PHC clinics	34.4	10.5	29.3	65.0	30.2	38.2
Medical aid coverage	7.2	6.8	6.6	8.3	9.1	5.6
Staffing (N^o / 100,000 population)						
Nursing Assistants	83.2	81.5	81.5	95.0	93.4	69.0
Enrolled nurses	70	63	62	84	88	63
Professional nurses	165	154	192	174	172	131
Dental practitioners	3.4	2.8	2.5	4.5	5.5	2.8
Medical practitioners	24.5	17.2	16.7	44.1	32.9	15.2
Medical specialists	1.3	0.7	0.1	4.4	0.8	0.3
Total N ^o Paediatricians	44					
Pharmacists	21.6	15.9	15.2	28.9	27.9	19.1
Occupational therapists	4.1	3.5	4.4	5.3	4.5	2.8
Physiotherapists	3.4	2.9	3.1	3.9	4.7	2.8
Maternal Health						
Antenatal 1 st visit coverage	85.7	81.4	79.1	87.3	105.5	84.0
Antenatal 1 st visit before 20 weeks rate	67.2	71.5	98.4	62.2	67.6	65.1
Delivery in 10 - 19 years in facility rate	15.8	13.1	15.8	12.4	13.5	18
Mother postnatal visit within 6 days	98.2	123.9	98.7	81.9	99.4	89.5
Maternal mortality ratio	111.6	107.4	81.5	196.7	97.1	66.8

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	59.9	70.5	71.0	73.5
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	28.9	39.2	43.0	40.3
Measles 2 nd dose coverage	87.2	84.8	80.5	78.9
Vitamin A dose 12 - 59 months coverage	50.3	47.3	42.2	46.5
Infant PCR test positive around 10 weeks rate	-	1.20	0.83	0.73
N ^o of HIV +ve children on ART	42 056	168 224	157 480	179 488
% with viral load suppression at 12 months	55.0	57.9	57.2	56.7
% children screened at facilities for TB	-	62.0	80.8	88.0
Diarrhoea incidence	10.3	9.5	8.0	6.9
Diarrhoea case fatality under 5 years rate	2.1	2.6	2.2	3.3
Pneumonia incidence	19.7	15.8	15.9	13.9
Pneumonia case fatality under 5 years rate	2.9	3.0	3.3	2.8
SAM incidence	4.7	3.1	1.2	1.1
SAM case fatality under 5 year rate	8.3	5.0	6.3	7.9
Infant Mortality				
Registered deaths (StatsSA)	2 492	2 324		
Hospital deaths (DHIS)	1 832	1 857	2 001	2 197
Hospital deaths (Child PIP)	327	332	220	
IMR (StatsSA)	21	19		
IHMR (DHIS)	9.3	9.9	9.9	10.4
IHMR (Child PIP)	3.8	3.5	3.2	
% deaths in health service	48.5	50.3		
N ^o deaths in District Hospital	1 093	978	1 144	1 269
N ^o deaths in Regional Hospital	338	470	475	499
N ^o deaths in Tertiary/Central Hospital	400	386	369	414
Under-5 Mortality				
Registered deaths (StatsSA)	3 611	3 314		
Hospital deaths (DHIS)	2 225	2 100	2 291	2 470
Hospital deaths (Child PIP)	537	563	375	
U5MR (StatsSA)	30	27		
IHMR (DHIS)	5.9	5.7	5.9	6.5
IHMR (Child PIP)	2.3	1.9	1.8	
% deaths in health service	44.2	45.3		
N ^o deaths in District Hospital	1 329	1 112	1 308	1 403
N ^o deaths in Regional Hospital	408	504	534	565
N ^o deaths in Tertiary/Central Hospital	487	461	436	487
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		7.6	13.0	9.2
Tuberculosis (A15-A19)		0.7	2.2	1.1
Other bacterial diseases (A30-A49)		2.2	1.8	2.1
HIV disease (B20-B24)		0.8	1.6	1.0
Other viral diseases (B25-B34)		1.5	1.9	1.7
Malnutrition (E40-E46)		2.1	7.2	3.6
Influenza and pneumonia (J09-J18)		12.0	14.1	12.7
Perinatal conditions 9P00-P96)		39.5	0.1	27.7
Congenital Disorders (Q00-Q99)		6.1	1.8	4.8
Ill defined/Miscellaneous conditions (R00-R99)		15.4	21.8	17.4
Non-natural (V01-Y98)		2.8	15.2	6.5
Other		9.3	19.2	12.3

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	33	37	37	
% children under-5 who died and had severe malnutrition	37.4	32.1	31.2	
% children under-5 who died and were HIV Infected or Exposed	39.1	35.2	33.0	
% Deaths within 24 hrs of admission to hospital	38.6	40.3	35.1	
Total MFR/death	4.1	4.0	3.1	
MFR - Clinical Personnel	2.3	2.3	1.7	
MFR - Administrator	0.6	0.6	0.3	
MFR - Caregiver	1.2	1.2	1.0	
% - Ward	28.3	27.5	25.5	
% - A&E	26.4	27.4	24.6	
% - Referring Facility & Transit	5.4	5.8	6.5	
% - Clinic/OPD	8.7	9.1	9.7	
% - Home	31.1	30.2	33.6	
Ward				
Lack of High Care and/or ICU facilities for children	1	3	1	
Inadequate revision of fluid management plan, despite changing condition	3		3	
New danger signs inadequately identified while in ward	2	1		
Inadequate response to new danger signs		2	2	
A&E/OPD				
Inadequate history taken at A&E	1	1	1	
Inadequate investigations (blood, x-ray, other) at A&E	2		3	
Inadequate physical examination at A&E	3		2	
No formal, structured triage system for A&E		2		
Inadequate notes on clinical care at A&E		3		
Referring facility				
Inadequate referral letter from referring facility	1		2	
Severity of child's condition incorrectly assessed at referring facility	2	1	3	
Inadequate notes on transit care	3			
Emergency or priority care not provided at referring hospital		2		
Child not managed correctly in ambulance		3		
No or delayed referral to higher level			1	
Clinic				
Inadequate notes on clinical care (assess, classify, treat) at clinic	1	3		
Inadequate IMCI implementation at clinic/OPD	2	1		
Danger signs missed at clinic/OPD		2	1	
Delayed referral of child with danger signs, from clinic/OPD			2	
Inadequate response to danger signs at clinic/OPD	3		3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
'Traditional remedy' with negative effect on child	3	3	3	

DC33 MOPANI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	57.4	66.2	67.0	77.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	21.3	32.1	35.4	31.9
Measles 2 nd dose coverage	90.4	86.4	79.3	82.3
Vitamin A dose 12 - 59 months coverage	56.7	49.8	45.2	48.2
Infant PCR test positive around 10 weeks rate	-	0.69	0.83	0.85
N ^o of HIV +ve children on ART	10 814	43 256	41 056	46 800
% with viral load suppression at 12 months	54.8	58.7	58.4	56.9
% children screened at facilities for TB	-	61.3	78.9	85.3
Diarrhoea incidence	12.3	10.7	10.0	7.4
Diarrhoea case fatality under 5 years rate	3.3	3.2	3.8	5.2
Pneumonia incidence	17.0	14.1	16.8	14.2
Pneumonia case fatality under 5 years rate	2.9	3.1	3.1	3.2
SAM incidence	3.5	0.2	1.1	0.8
SAM case fatality under 5 year rate	13.0	4.7	3.6	3.1
Infant Mortality				
Registered deaths (StatsSA)	623	516		
Hospital deaths (DHIS)	348	336	404	496
Hospital deaths (Child PIP)	90	68	48	
IMR (StatsSA)	28	23		
IHMR (DHIS)	11.2	12.3	12.5	14.6
IHMR (Child PIP)	4.6	4.3	3.8	
% deaths in health service	47	50.8		
N ^o deaths in District Hospital	278	254	292	351
N ^o deaths in Regional Hospital	69	72	111	135
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	1022	721		
Hospital deaths (DHIS)	432	390	473	544
Hospital deaths (Child PIP)	134	117	76	
U5MR (StatsSA)	45.2	31.4		
IHMR (DHIS)	7.2	6.4	6.9	9
IHMR (Child PIP)	2.7	2.2	2.1	
% deaths in health service	35.6	44.9		
N ^o deaths in District Hospital	350	298	352	382
N ^o deaths in Regional Hospital	81	82	120	152
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.8	10.7	7.9
Tuberculosis (A15-A19)		0.6	2.0	1.0
Other bacterial diseases (A30-A49)		1.2	0.5	1.0
HIV disease (B20-B24)		0.2	0.0	0.1
Other viral diseases (B25-B34)		1.2	2.4	1.5
Malnutrition (E40-E46)		0.8	8.8	3.1
Influenza and pneumonia (J09-J18)		12.8	11.7	12.5
Perinatal conditions 9P00-P96)		41.3	0.0	29.5
Congenital Disorders (Q00-Q99)		4.8	0.5	3.6
Ill defined/Miscellaneous conditions (R00-R99)		18.8	32.2	22.6
Non-natural (V01-Y98)		3.5	11.7	5.8
Other		8.1	19.5	11.4

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	7	7	7	
% children under-5 who died and had severe malnutrition	34.8	39.8	25.0	
% children under-5 who died and were HIV Infected or Exposed	35.5	32.0	33.0	
% Deaths within 24 hrs of admission to hospital	39.7	45.8	34.5	
Total MFR/death	1.3	1.3	0.8	
MFR - Clinical Personnel	0.7	0.5	0.4	
MFR - Administrator	0.3	0.3	0.2	
MFR - Caregiver	0.4	0.5	0.2	
% - Ward	28.4	25.1	24.3	
% - A&E	16.8	15.0	18.6	
% - Referring Facility & Transit	11.1	10.8	18.6	
% - Clinic/OPD	13.2	11.4	10.0	
% - Home	30.5	37.7	28.6	
Ward				
Lack of High Care and/or ICU facilities for children	1	2		
Inadequate revision of fluid management plan	2			
New danger signs inadequately identified while in ward	3	1		
Inadequate response to new danger signs		3		
Other clinical personnel modifiable factor in ward			1	
Inadequate review of child with severe dehydration			2	
Inadequate advice from higher level facility			3	
A&E/OPD				
Inadequate rehydration plan at A&E	1		2	
Inadequate physical examination at A&E	3			
Emergency signs not recognised at A&E		1		
Inadequate paediatric resuscitation area in casualty/OPD		2		
No home/community IMCI in health subdistrict		3		
Other clinical personnel modifiable factor at A&E			1	
Inadequate history taken at A&E	2		3	
Referring facility				
No or delayed referral to higher level	1		1	
No nurse assigned to monitor the child while awaiting the ambulance	2			
Inadequate ambulance service from health facility to receiving hospital	3	2	2	
Severity of child's condition incorrectly assessed at referring facility		1		
No doctor assigned to monitor child while awaiting the ambulance		3		
Other clinical personnel modifiable factor in transit care			3	
Clinic				
Inadequate notes on clinical care (assess, classify, treat) at clinic	1			
No policy on short-stay for paediatric patients at clinic/OPD	2			
No transport from home to clinic		2		
No clear documentation of child's HIV status at clinic/OPD		3		
Communication problems: Staff to caregiver			1	
Delayed referral of child with danger signs, from clinic/OPD			2	
No pulse oxymeter at clinic/OPD	3	1	3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2		
Child not provided with adequate (quality and/or quantity) food at home	3			
'Traditional remedy' with negative effect on child		3	2	
Inappropriate treatment given at home with negative effect on child			3	

DC34 VHEMBE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	67.5	70.9	74.6	76.2
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	27.7	36.8	39.1	38.9
Measles 2 nd dose coverage	90.7	78.3	79.9	79.3
Vitamin A dose 12 - 59 months coverage	54.1	51.1	44	49.3
Infant PCR test positive around 10 weeks rate	-	1.2	0.78	0.72
N ^o of HIV +ve children on ART	7 058	28 232	27 744	31 616
% with viral load suppression at 12 months	54.5	54.9	63.1	59.8
% children screened at facilities for TB	0	49.9	72.3	80.7
Diarrhoea incidence	12.8	12.3	9.0	6.8
Diarrhoea case fatality under 5 years rate	1	1.9	0.91	3.2
Pneumonia incidence	24.5	19.5	19.1	16
Pneumonia case fatality under 5 years rate	1.8	1.7	2.3	1.3
SAM incidence	4.6	0.25	0.84	0.92
SAM case fatality under 5 year rate	7.4	7.2	10.4	7.7
Infant Mortality				
Registered deaths (StatsSA)	439	391		
Hospital deaths (DHIS)	325	349	367	392
Hospital deaths (Child PIP)	59	92	53	
IMR (StatsSA)	14.6	12.8		
IHMR (DHIS)	7.9	8.8	9	9.3
IHMR (Child PIP)	2.6	2.9	2.1	
% deaths in health service	48.7	50.1		
N ^o deaths in District Hospital	215	192	266	273
N ^o deaths in Regional Hospital	110	150	97	116
N ^o deaths in Tertiary/Central Hospital	0	0	0	0
Under-5 Mortality				
Registered deaths (StatsSA)	714	569		
Hospital deaths (DHIS)	415	400	425	451
Hospital deaths (Child PIP)	113	170	94	
U5MR (StatsSA)	23.8	18.6		
IHMR (DHIS)	4.5	4.4	4.4	5
IHMR (Child PIP)	1.8	1.6	1.6	
% deaths in health service	44.4	46		
N ^o deaths in District Hospital	282	232	309	304
N ^o deaths in Regional Hospital	133	161	112	144
N ^o deaths in Tertiary/Central Hospital	0	0	0	0
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		4.6	5.6	4.9
Tuberculosis (A15-A19)		0.3	2.8	1.1
Other bacterial diseases (A30-A49)		1.5	0.0	1.1
HIV disease (B20-B24)		1.8	4.0	2.5
Other viral diseases (B25-B34)		1.3	1.7	1.4
Malnutrition (E40-E46)		3.3	9.6	5.3
Influenza and pneumonia (J09-J18)		4.3	4.5	4.4
Perinatal conditions 9P00-P96)		38.1	0.0	26.2
Congenital Disorders (Q00-Q99)		5.9	1.7	4.6
Ill defined/Miscellaneous conditions (R00-R99)		28.9	40.1	32.4
Non-natural (V01-Y98)		3.3	12.4	6.2
Other		6.6	17.5	10.0

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	6	7	7	
% children under-5 who died and had severe malnutrition	28.6	19.1	31.7	
% children under-5 who died and were HIV Infected or Exposed	32.5	33.0	26.0	
% Deaths within 24 hrs of admission to hospital	33.3	39.4	35.9	
Total MFR/death	3.5	4.4	4.3	
MFR - Clinical Personnel	2.0	3.0	2.8	
MFR - Administrator	0.5	0.4	0.4	
MFR - Caregiver	1.0	1.0	1.2	
% - Ward	26.0	29.4	27.3	
% - A&E	23.9	32.0	27.6	
% - Referring Facility & Transit	7.1	7.6	7.3	
% - Clinic/OPD	10.0	7.9	7.8	
% - Home	33.0	23.1	30.0	
Ward				
Lack of High Care and/or ICU facilities for children	1			
Inadequate revision of fluid management plan	2			
WHO '10 Steps' not followed for child with severe malnutrition	3			
Inadequate monitoring of respiratory rate and/or oxygen saturation		1		
Inadequate history taken in ward		2	2	
Insufficient notes on clinical care in ward (assess, manage, monitor)		3		
Inadequate monitoring of blood glucose in ward			1	
Inadequate response to new danger signs			3	
A&E/OPD				
Inadequate physical examination at A&E	1		2	
Inadequate notes on clinical care at A&E	2	2		
Inadequate assessment of dehydration at A&E	3			
Inadequate history taken at A&E		1	1	
Inadequate investigations (blood, x-ray, other) at A&E		3		
Inadequate rehydration plan at A&E			3	
Referring facility				
Inadequate referral letter from referring facility	1		3	
Inadequate notes on transit care	2			
Severity of child's condition incorrectly assessed at referring facility	3	3	1	
Emergency or priority care not provided at referring hospital		1		
Child not managed correctly in ambulance		2		
No or delayed referral to higher level			2	
Clinic				
Inadequate notes on clinical care (assess, classify, treat) at clinic	1	2		
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	2			
IMCI not used for patient assessment at clinic/OPD	3	1		
Inadequate fluid management for diarrhoeal disease with dehydration		3		
Danger signs missed at clinic/OPD			1	
Delayed or lost laboratory results (especially HIV) at clinic/OPD			2	
Initiation of ART at clinic/OPD delayed - lost or delayed investigations			3	
Home				
Caregiver delayed seeking care	1	1	2	
Caregiver did not recognise danger signs/severity of illness	2	2	1	
Child not provided with adequate (quality and/or quantity) food at home	3		3	
'Traditional remedy' with negative effect on child		3		

DC35 CAPRICORN

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	62.0	73.3	70.3	74.9
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	42.2	49.8	50.3	48.3
Measles 2 nd dose coverage	86.0	87.1	87.9	79.8
Vitamin A dose 12 - 59 months coverage	48.7	45.4	41.6	46.9
Infant PCR test positive around 10 weeks rate	-	1.10	0.81	0.72
N ^o of HIV +ve children on ART	10 180	40 720	36 536	41 640
% with viral load suppression at 12 months	58.8	59.9	57.2	56.9
% children screened at facilities for TB	-	88.4	93.0	94.7
Diarrhoea incidence	8.8	7.3	6.9	6.5
Diarrhoea case fatality under 5 years rate	2.4	2.1	2.8	3.1
Pneumonia incidence	16.5	14.2	14.8	12.6
Pneumonia case fatality under 5 years rate	5.8	8.0	8.4	6.8
SAM incidence	4.5	11.2	0.8	0.7
SAM case fatality under 5 year rate	9.2	3.4	4.4	21.5
Infant Mortality				
Registered deaths (StatsSA)	751	739		
Hospital deaths (DHIS)	672	646	630	701
Hospital deaths (Child PIP)	42	59	40	
IMR (StatsSA)	26.6	25.8		
IHMR (DHIS)	9.8	9.8	9.0	9.6
IHMR (Child PIP)	4.2	3.4	6.1	
% deaths in health service	55.4	58.3		
N ^o deaths in District Hospital	272	259	258	287
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	400	386	369	414
Under-5 Mortality				
Registered deaths (StatsSA)	1 022	1 019		
Hospital deaths (DHIS)	789	743	726	804
Hospital deaths (Child PIP)	61	91	68	
U5MR (StatsSA)	36.2	35.5		
IHMR (DHIS)	6.9	6.8	6.3	7.0
IHMR (Child PIP)	2.1	2.0	3.9	
% deaths in health service	51.6	53.2		
N ^o deaths in District Hospital	302	281	287	317
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	487	461	436	487
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.1	15.0	8.5
Tuberculosis (A15-A19)		0.8	2.5	1.3
Other bacterial diseases (A30-A49)		2.6	1.1	2.2
HIV disease (B20-B24)		0.8	1.8	1.1
Other viral diseases (B25-B34)		1.5	1.8	1.6
Malnutrition (E40-E46)		1.9	5.7	2.9
Influenza and pneumonia (J09-J18)		13.1	15.7	13.8
Perinatal conditions 9P00-P96)		42.9	0.4	31.2
Congenital Disorders (Q00-Q99)		8.3	1.8	6.5
Ill defined/Miscellaneous conditions (R00-R99)		11.0	17.1	12.7
Non-natural (V01-Y98)		2.2	15.7	5.9
Other		8.9	21.4	12.4

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	6	8	8	
	% children under-5 who died and had severe malnutrition	30.0	38.1	21.4	
	% children under-5 who died and were HIV Infected or Exposed	50.0	23.9	23.5	
	% Deaths within 24 hrs of admission to hospital	31.4	31.0	28.6	
	Total MFR/death	5.9	3.4	2.2	
	MFR - Clinical Personnel	3.4	2.0	1.1	
	MFR - Administrator	0.7	0.2	0.3	
	MFR - Caregiver	1.8	1.1	0.8	
	% - Ward	20.0	26.9	22.9	
	% - A&E	29.9	22.7	18.7	
	% - Referring Facility & Transit	8.0	6.6	5.6	
	% - Clinic/OPD	4.6	7.1	11.2	
	% - Home	37.6	36.7	41.6	
Ward					
	New danger signs inadequately identified while in ward	1			
	Inadequate monitoring of respiratory rate and/or oxygen saturation	2			
	Inadequate revision of fluid management plan	3			
	Inadequate response to new danger signs		1		
	Inadequate history taken in ward		2		
	Too much/too little, incorrect type of IV fluids given in ward		3		
	Lack of High Care and/or ICU facilities for children			1	
	Other clinical personnel modifiable factor in ward			2	
	Danger signs missed due to inadequate monitoring in ward			3	
A&E/OPD					
	Inadequate history taken at A&E	1	1	1	
	Inadequate physical examination at A&E	2			
	Inadequate investigations (blood, x-ray, other) at A&E	3			
	No hand-over of critically ill child from admitting doctor to ward doctor		2		
	Results of urgent investigations not obtained at A&E		3		
	Oxygen saturation not monitored at A&E			2	
	Inadequate problem list compiled at A&E			3	
Referring facility					
	Inadequate referral letter from referring facility	1	1		
	Severity of child's condition incorrectly assessed at referring facility	2	3		
	Child not managed correctly in ambulance	3			
	No or delayed referral to higher level		2	1	
	Delayed arrival of ambulance at referring facility			2	
	Emergency or priority care not provided at referring hospital			3	
Clinic					
	Inadequate assesment for HIV (IMCI not used) at clinic/OPD	1			
	Caregiver did not bring RTHC and/or referral letter to clinic	2			
	Inadequate response to danger signs at clinic/OPD	3	1		
	Did not arrive at clinic/OPD on day of referral/did not keep appointment		2		
	Inadequate fluid management for diarrhoeal disease with dehydration		3		
	Danger signs missed at clinic/OPD			1	
	Delayed referral of child with danger signs, from clinic/OPD			2	
	Meningitis not considered in child with fever at clinic/OPD			3	
Home					
	Caregiver did not recognise danger signs/severity of illness	1	1	1	
	Caregiver delayed seeking care	2	2	2	
	'Traditional remedy' with negative effect on child	3	3	3	

DC36 WATERBERG

		2016/17	2017/18	2018/19	2019/20
Child Health					
	Immunisation under 1 year coverage	67.4	79.3	80.9	83.0
	Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	31.5	44.9	49.5	48.7
	Measles 2 nd dose coverage	87.5	84.7	79.8	84.1
	Vitamin A dose 12 - 59 months coverage	43.3	48.6	46.8	49.4
	Infant PCR test positive around 10 weeks rate	-	2.00	1.10	0.66
	N ^o of HIV +ve children on ART	6 284	25 136	22 168	25 264
	% with viral load suppression at 12 months	46.3	54.9	50.0	54.1
	% children screened at facilities for TB	-	73.3	92.9	94.5
	Diarrhoea incidence	7.7	7.1	7.3	6.0
	Diarrhoea case fatality under 5 years rate	2.1	1.4	0.7	2.5
	Pneumonia incidence	18.0	16.3	17.2	16.1
	Pneumonia case fatality under 5 years rate	1.9	2.1	1.3	3.0
	SAM incidence	9.4	5.7	2.6	2.2
	SAM case fatality under 5 year rate	4.1	4.5	6.6	7.7
Infant Mortality					
	Registered deaths (StatsSA)	279	310		
	Hospital deaths (DHIS)	197	213	219	234
	Hospital deaths (Child PIP)	55	38	39	
	IMR (StatsSA)	18.3	19.8		
	IHMR (DHIS)	7.9	8.9	9.1	9.6
	IHMR (Child PIP)	3.8	2.4	2.7	
	% deaths in health service	43.7	46.1		
	N ^o deaths in District Hospital	139	94	130	143
	N ^o deaths in Regional Hospital	58	118	89	91
	N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality					
	Registered deaths (StatsSA)	385	437		
	Hospital deaths (DHIS)	238	227	243	259
	Hospital deaths (Child PIP)	97	62	63	
	U5MR (StatsSA)	25.2	27.9		
	IHMR (DHIS)	5.0	5.1	5.2	5.5
	IHMR (Child PIP)	2.6	1.3	1.5	
	% deaths in health service	40.8	41.2		
	N ^o deaths in District Hospital	168	103	146	162
	N ^o deaths in Regional Hospital	70	123	97	97
	N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017					
			Under 1	1-4 years	Under 5
	Intestinal Infections (A00 - A09)		11.3	21.3	14.2
	Tuberculosis (A15-A19)		1.3	3.9	2.1
	Other bacterial diseases (A30-A49)		0.6	0.0	0.5
	HIV disease (B20-B24)		1.3	3.1	1.8
	Other viral diseases (B25-B34)		1.6	1.6	1.6
	Malnutrition (E40-E46)		2.6	6.3	3.7
	Influenza and pneumonia (J09-J18)		12.6	15.0	13.3
	Perinatal conditions 9P00-P96)		41.6	0.0	29.5
	Congenital Disorders (Q00-Q99)		5.2	2.4	4.3
	Ill defined/Miscellaneous conditions (R00-R99)		5.5	8.7	6.4
	Non-natural (V01-Y98)		2.6	21.3	8.0
	Other		13.9	16.5	14.6

		2016/17	2017/18	2018/19	2019/20
Modifiable Factors					
	N° hospitals doing Child PIP	7	8	8	
	% children under-5 who died and had severe malnutrition	48.5	41.6	42.1	
	% children under-5 who died and were HIV Infected or Exposed	37.6	41.6	42.1	
	% Deaths within 24 hrs of admission to hospital	48.5	41.3	41.3	
	Total MFR/death	6.6	7.5	6.1	
	MFR - Clinical Personnel	3.8	4.0	3.2	
	MFR - Administrator	0.8	1.2	0.6	
	MFR - Caregiver	2.1	2.4	2.2	
	% - Ward	25.2	22.1	21.3	
	% - A&E	30.1	29.0	26.9	
	% - Referring Facility & Transit	4.2	4.5	4.3	
	% - Clinic/OPD	10.3	10.7	12.9	
	% - Home	30.3	33.7	34.6	
Ward					
	Lack of High Care and/or ICU facilities for children	1	1	1	
	Results of investigations inadequately documented (including x-rays)	2			
	RTHC information not present in child's folder	3			
	Other clinical personnel modifiable factor in ward		2		
	New danger signs inadequately identified while in ward		3	2	
	Inadequate investigations in ward			3	
A&E/OPD					
	Inadequate history taken at A&E	1	1	1	
	Not classified as critically ill despite presence of danger signs at A&E	2	3		
	Inadequate treatment of shock in A&E	3			
	Lack of Intensive and High Care beds in own, or referral hospital		2		
	Results of urgent investigations not obtained at A&E			2	
	Admission records incomplete or inappropriate			3	
Referring facility					
	Severity of child's condition incorrectly assessed at referring facility	1	1		
	Inadequate notes on transit care	2	2	1	
	Inadequate referral letter from referring facility	3		2	
	No high care bed in referring facility for pre-transfer care of child		3		
	Other clinical personnel modifiable factor in transit care			3	
Clinic					
	Did not arrive at clinic/OPD on day of referral/did not keep appointment	1			
	Inadequate response to growth faltering or failure, at clinic/OPD	2			
	Inadequate response to danger signs at clinic/OPD	3			
	Inadequate notes on clinical care (assess, classify, treat) at clinic		1	1	
	Danger signs missed at clinic/OPD		2		
	No clear documentation of child's HIV status at clinic/OPD		3		
	Child's growth problem inadequately identified or classified			2	
	Delayed referral for severe malnutrition, weight loss, or growth faltering			3	
Home					
	Caregiver delayed seeking care	1	1	1	
	Caregiver did not recognise danger signs/severity of illness	2	2	2	
	'Traditional remedy' with negative effect on child	3	3	3	

DC47 SEKHUKHUNE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	47.7	67.4	65.6	61.9
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	22.5	35.2	43.7	37.7
Measles 2 nd dose coverage	80.9	88.5	76.3	72.0
Vitamin A dose 12 - 59 months coverage	44.9	41.7	35.5	39.6
Infant PCR test positive around 10 weeks rate	-	1.20	0.64	0.70
N ^o of HIV +ve children on ART	7 720	30 880	29 976	34 168
% with viral load suppression at 12 months	56.3	57.4	55.6	54.9
% children screened at facilities for TB	-	49.4	77.4	91.3
Diarrhoea incidence	8.2	8.5	6.6	7.4
Diarrhoea case fatality under 5 years rate	2.7	4.5	3.2	2.3
Pneumonia incidence	20.3	14.4	11.9	11.2
Pneumonia case fatality under 5 years rate	3.2	2.6	2.4	2.3
SAM incidence	3.9	0.1	1.5	1.5
SAM case fatality under 5 year rate	11.3	7.0	15.1	8.3
Infant Mortality				
Registered deaths (StatsSA)	391	368		
Hospital deaths (DHIS)	290	313	381	374
Hospital deaths (Child PIP)	81	75	40	
IMR (StatsSA)	16.9	15.7		
IHMR (DHIS)	9.1	10.1	10.9	9.8
IHMR (Child PIP)	4.5	4.8	2.4	
% deaths in health service	41.2	37.5		
N ^o deaths in District Hospital	189	179	198	215
N ^o deaths in Regional Hospital	101	130	178	157
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	604	569		
Hospital deaths (DHIS)	351	340	424	412
Hospital deaths (Child PIP)	132	123	74	
U5MR (StatsSA)	26.1	24.3		
IHMR (DHIS)	5.6	5.5	6.7	6.3
IHMR (Child PIP)	2.5	2.3	1.4	
% deaths in health service	37.1	34.1		
N ^o deaths in District Hospital	227	198	214	238
N ^o deaths in Regional Hospital	124	138	205	172
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		12.0	13.9	12.7
Tuberculosis (A15-A19)		0.5	0.5	0.5
Other bacterial diseases (A30-A49)		4.6	7.0	5.4
HIV disease (B20-B24)		0.0	0.0	0.0
Other viral diseases (B25-B34)		2.4	2.0	2.3
Malnutrition (E40-E46)		2.4	6.0	3.7
Influenza and pneumonia (J09-J18)		16.6	22.4	18.6
Perinatal conditions 9P00-P96)		29.6	0.0	19.2
Congenital Disorders (Q00-Q99)		4.6	3.0	4.0
Ill defined/Miscellaneous conditions (R00-R99)		13.9	10.0	12.5
Non-natural (V01-Y98)		2.4	16.4	7.4
Other		10.9	18.9	13.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	7	7	7	
% children under-5 who died and had severe malnutrition	43.5	32.3	38.6	
% children under-5 who died and were HIV Infected or Exposed	44.2	47.4	44.6	
% Deaths within 24 hrs of admission to hospital	38.8	44.2	36.6	
Total MFR/death	4.5	4.4	2.2	
MFR - Clinical Personnel	2.6	2.0	1.2	
MFR - Administrator	0.7	1.0	0.2	
MFR - Caregiver	1.2	1.4	0.7	
% - Ward	38.4	31.1	35.6	
% - A&E	24.9	25.9	20.6	
% - Referring Facility & Transit	2.4	2.7	6.7	
% - Clinic/OPD	7.4	9.6	4.4	
% - Home	26.9	30.6	32.8	
Ward				
New danger signs inadequately identified while in ward	1			
Inadequate response to new danger signs	2	1		
Inadequate review of child with severe dehydration	3			
New danger signs inadequately identified while in ward		2		
Inadequate intake-output charting in ward		3		
Inadequate daily 'Problem List' in ward			1	
Inadequate case assessment and management at previous admission			2	
Doctor called, but did not respond and/or did not come			3	
A&E/OPD				
Emergency signs not recognised at A&E	1	2		
No formal, structured triage system for A&E	2	1		
Inadequate investigations (blood, x-ray, other) at A&E	3		1	
Not classified as critically ill despite presence of danger signs at A&E		3	2	
Shock not monitored while awaiting admission, at A&E			3	
Referring facility				
No or delayed referral to higher level	1			
Severity of child's condition incorrectly assessed at referring facility	2	1	1	
Delayed arrival of ambulance at referring facility	3			
No high care bed in referring facility for pre-transfer care of child		2		
Emergency or priority care not provided at referring hospital		3		
Inadequate referral letter from referring facility			2	
Child not re-assessed at time of departure from referring facility			3	
Clinic				
Inadequate IMCI implementation at clinic/OPD	1			
Severity of dehydration incorrectly assessed at clinic/OPD	2			
Delayed referral of child with danger signs, from clinic/OPD	3			
Inadequate IMCI implementation at clinic/OPD		1		
Danger signs missed at clinic/OPD		2		
Inadequate response to growth faltering or failure, at clinic/OPD		3		
Child had household TB contact, but no contact tracing was done			1	
Inadequate assesment for HIV (IMCI not used) at clinic/OPD			2	
Child's growth problem inadequately identified or classified			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
'Traditional remedy' with negative effect on child	3	3	3	

MPUMALANGA

SOCIO-DEMOGRAPHIC PROFILE

	Province	Gert Sibande	Nkangala	Ehlanzeni
Demographic Profile				
Total population	4 520 629	1 215 273	1 562 174	1 743 182
Population density (people/km ²)	59.1	38.2	93.2	62.5
N ^o children < 5 years	466 635	114 236	139 033	196 980
N ^o children < 15 years	1 382 167	351 214	413 976	576 993
% of population < 5 years	10.3	9.4	8.9	11.3
% of population < 15 years	30.6	28.9	26.5	33.1
Annual births	77 353	19 214	20 865	37 274
Household profile				
% female headed households	39.7	39.1	35.5	43.7
% children who are orphans	16.5			
% children 5 - 6 years attending ECD centre	91.8			
% children 7 - 17 years attending school	98.0			
% population > 20 years with no schooling	11.3	11.0	9.3	14.1
% population > 20 years with no matric	57.9	67.6	65.0	65.8
% living in formal dwelling	84.7	78.0	81.6	92.0
% households with piped water in dwelling	29.0	34.3	39.3	16.4
% households using electricity for lighting	88.9	88.9	85.7	95.3
% households with flush sanitation	65.7	67.1	51.5	19.1
% households with weekly refuse removal	39.4	54.3	47.9	21.7
Unemployment rate	31.6	29.7	30.0	34.4
% children living in poverty	67.5			
% children >30 mins from health facility	25.2			
Health services				
N ^o Community Health Workers	6 640	2 076	1 730	2 813
N ^o PHC clinics	238	57	71	110
N ^o Community Health Centres	56	19	22	15
N ^o District Hospitals	23	8	7	8
N ^o Regional Hospitals	3	1	-	2
N ^o Tertiary/Central Hospitals	2	-	1	1
N ^o Other Hospitals	25	6	13	6
% Ideal PHC clinics	46.2	89.6	42.2	21.5
Medical aid coverage	12.5	13.1	14.8	10.2
Staffing (N^o / 100,000 population)				
Nursing Assistants	37.0	63.4	27.4	45.7
Enrolled nurses	46.3	45.4	25.6	64.6
Professional nurses	142.1	141.5	101.4	174.0
Dental practitioners	2.7	3.2	2.3	2.6
Medical practitioners	26.1	22.3	21.6	32.3
Medical specialists	22.3	21.6	32.3	26.1
Total N ^o Paediatricians	24			
Pharmacists	8.1	9.0	5.0	10.2
Occupational therapists	2.4	2.4	1.7	2.9
Physiotherapists	2.5	2.5	3.0	2.7
Maternal Health				
Antenatal 1 st visit coverage	880.0	86.8	87.2	90.3
Antenatal 1 st visit before 20 weeks rate	75.6	68.4	71.1	82.3
Delivery in 10 - 19 years in facility rate	14.8	15.9	10.9	16.2
Mother postnatal visit within 6 days	67.7	63.9	75.5	65.6
Maternal mortality ratio	92.4	95.8	109.3	82.4

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	75.6	90.2	96.8	96.1
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	35.3	48.5	52.2	52.0
Measles 2 nd dose coverage	82.4	89.1	85.9	93.7
Vitamin A dose 12 - 59 months coverage	53.8	58.4	65.8	65.5
Infant PCR test positive around 10 weeks rate	-	1.70	1.10	0.89
N ^o of HIV +ve children on ART	57 602	230 408	327 856	231 464
% with viral load suppression at 12 months	65.4	68.5	68.8	57.9
% children screened at facilities for TB	-	57.1	83.4	90.5
Diarrhoea incidence	7.6	6.4	2.7	1.4
Diarrhoea case fatality under 5 years rate	1.5	1.9	2.3	2.2
Pneumonia incidence	13.5	7.1	4.5	4.0
Pneumonia case fatality under 5 years rate	3.4	2.3	2.7	2.3
SAM incidence	2.3	1.5	1.7	0.8
SAM case fatality under 5 year rate	8.4	9.1	9.1	10.7
Infant Mortality				
Registered deaths (StatsSA)	1 678	1 315		
Hospital deaths (DHIS)	1 030	1 083	1 174	1 152
Hospital deaths (Child PIP)	451	317	354	
IMR (StatsSA)	22.2	17.0		
IHMR (DHIS)	9.6	10.2	10.6	10.6
IHMR (Child PIP)	4.9	4.0	4.2	
% deaths in health service	54.5	58.0		
N ^o deaths in District Hospital	631	618	759	691
N ^o deaths in Regional Hospital	158	160	138	175
N ^o deaths in Tertiary/Central Hospital	241	295	259	277
Under-5 Mortality				
Registered deaths (StatsSA)	2 273	1 794		
Hospital deaths (DHIS)	1 179	1 259	1 322	1 264
Hospital deaths (Child PIP)	592	442	479	
U5MR (StatsSA)	30.0	23.2		
IHMR (DHIS)	6.1	7.0	7.4	7.6
IHMR (Child PIP)	2.9	2.5	2.7	
% deaths in health service	49.4	52.0		
N ^o deaths in District Hospital	725	704	844	770
N ^o deaths in Regional Hospital	185	181	158	192
N ^o deaths in Tertiary/Central Hospital	269	364	298	293
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		9.8	12.5	10.5
Tuberculosis (A15-A19)		0.7	3.1	1.3
Other bacterial diseases (A30-A49)		1.0	1.0	1.0
HIV disease (B20-B24)		0.6	0.8	0.7
Other viral diseases (B25-B34)		1.0	1.7	1.2
Malnutrition (E40-E46)		2.1	6.9	3.3
Influenza and pneumonia (J09-J18)		7.3	9.4	7.9
Perinatal conditions 9P00-P96)		44.4	0.2	32.6
Congenital Disorders (Q00-Q99)		7.1	2.7	6.0
Ill defined/Miscellaneous conditions (R00-R99)		11.5	14.4	12.3
Non-natural (V01-Y98)		4.4	23.6	9.5
Other		10.1	23.6	13.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	28	28	28	
% severe malnutrition	26.6	26.1	21.9	
% HIV Infected or Exposed	43.9	35.8	37.1	
% Deaths within 24 hrs	32.5	36.0	36.2	
Total MFR/death	4.4	3.6	4.3	
MFR - Clinical Personnel	2.4	1.9	2.3	
MFR - Administrator	0.6	0.5	0.5	
MFR - Caregiver	1.4	1.2	1.5	
% - Ward	24.0	24.1	24.1	
% - A&E	28.0	28.2	29.3	
% - Referring Facility & Transit	5.1	5.8	4.8	
% - Clinic/OPD	10.5	8.6	9.1	
% - Home	32.5	33.3	32.7	
Ward				
Lack of High Care / ICU facilities for children	1	1	1	
Inadequate history taken in ward	2	2		
Inadequate response to new danger signs			2	
New danger signs inadequately identified while in ward	3	3		
RTHC information not present in child's folder			3	
A&E/OPD				
Inadequate notes on clinical care at A&E	1	1	1	
Inadequate history taken at A&E	2	2	2	
Inadequate investigations (blood, x-ray, other) at A&E	3			
No hand-over of critically ill child from admitting doctor to ward doctor		3	3	
Referring facility				
No high care bed in referring facility for pre-transfer care of child	1	1	1	
Severity of child's condition incorrectly assessed at referring facility	2		3	
Inadequate referral letter from referring facility	3			
No or delayed referral to higher level		2		
No ambulance available for transfer from referring to receiving hospital		3		
Delayed arrival of ambulance at referring facility			2	
Clinic				
Child's growth problem inadequately identified or classified	3	3	2	
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	1	1	1	
Inadequate notes on clinical care (assess, classify, treat) at clinic	2	2	3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2		
Child not provided with adequate (quality and/or quantity) food at home			3	
'Traditional remedy' with negative effect on child	3	3	2	

DC30 GERT SIBANDE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	50.7	87.6	93.4	88.9
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	24.9	46.8	58.1	51.6
Measles 2 nd dose coverage	53.9	80.8	84.4	83.0
Vitamin A dose 12 - 59 months coverage	28.2	48.4	59.5	60.5
Infant PCR test positive around 10 weeks rate	-	4.90	0.77	0.61
N ^o of HIV +ve children on ART	17 058	68 232	101 072	71 368
% with viral load suppression at 12 months	71.4	69.6	72.7	64.4
% children screened at facilities for TB	-	50.7	79.1	87.9
Diarrhoea incidence	8.4	6.8	2.3	1.7
Diarrhoea case fatality under 5 years rate	1.1	1.4	1.8	1.0
Pneumonia incidence	7.8	3.4	2.9	2.6
Pneumonia case fatality under 5 years rate	1.7	1.6	1.4	2.5
SAM incidence	2.0	2.2	3.8	1.5
SAM case fatality under 5 year rate	9.3	9.0	5.2	8.1
Infant Mortality				
Registered deaths (StatsSA)	626	481		
Hospital deaths (DHIS)	271	306	322	297
Hospital deaths (Child PIP)	132	98	101	
IMR (StatsSA)	39.5	29.1		
IHMR (DHIS)	9.5	7.9	7.6	6.9
IHMR (Child PIP)	5.0	4.1	3.9	
% deaths in health service	52.9	58.6		
N ^o deaths in District Hospital	244	267	285	254
N ^o deaths in Regional Hospital	27	36	28	40
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	785	603		
Hospital deaths (DHIS)	295	322	347	316
Hospital deaths (Child PIP)	168	114	125	
U5MR (StatsSA)	49.5	36.5		
IHMR (DHIS)	5.6	5.7	5.6	5.3
IHMR (Child PIP)	2.9	2.3	2.3	
% deaths in health service	50.2	52.9		
N ^o deaths in District Hospital	260	278	302	268
N ^o deaths in Regional Hospital	35	41	36	45
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		8.9	12.3	9.6
Tuberculosis (A15-A19)		0.6	3.3	1.2
Other bacterial diseases (A30-A49)		0.8	0.0	0.7
HIV disease (B20-B24)		0.2	0.8	0.3
Other viral diseases (B25-B34)		0.6	0.0	0.5
Malnutrition (E40-E46)		2.7	5.7	3.3
Influenza and pneumonia (J09-J18)		6.9	8.2	7.1
Perinatal conditions 9P00-P96)		48.4	0.0	38.6
Congenital Disorders (Q00-Q99)		4.6	1.6	4.0
Ill defined/Miscellaneous conditions (R00-R99)		12.7	23.8	14.9
Non-natural (V01-Y98)		5.0	26.2	9.3
Other		8.5	18.0	10.4

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	9	9	9	
% severe malnutrition	20.0	6.3	0.0	
% HIV Infected or Exposed	40.3	33.9	36.8	
% Deaths within 24 hrs	31.2	40.3	25.0	
Total MFR/death	3.4	2.9	3.1	
MFR - Clinical Personnel	2.0	1.4	1.8	
MFR - Administrator	0.3	0.2	0.2	
MFR - Caregiver	1.0	1.2	1.1	
% - Ward	26.6	21.4	24.6	
% - A&E	29.6	24.7	27.9	
% - Referring Facility & Transit	1.8	4.4	3.1	
% - Clinic/OPD	11.1	8.6	9.1	
% - Home	30.9	40.8	35.4	
Ward				
Lack of High Care / ICU facilities for children	1	1	1	
Inadequate history taken in ward	2	2		
Doctor at peripheral hospital did not call referral hospital	3			
RTHC information not present in child's folder		3		
Insufficient notes on clinical care in ward (assess, manage, monitor)			3	
Doctor at peripheral hospital did not call referral hospital			2	
A&E/OPD				
Not classified as critically ill despite presence of danger signs at A&E	1			
Emergency signs not recognised at A&E	2			
Inadequate history taken at A&E	3	2		
Inadequate notes on clinical care at A&E		1	1	
Inadequate treatment of shock in A&E (fluid type, amount, rate)		3		
Inadequate investigations (blood, x-ray, other) at A&E			2	
Inadequate physical examination at A&E			3	
Referring facility				
No high care bed in referring facility for pre-transfer care of child	1	1	1	
Delayed arrival of ambulance at referring facility	2		2	
Severity of child's condition incorrectly assessed at referring facility	3			
No or delayed referral to higher level		2		
Child not monitored correctly in ambulance		3		
Inadequate referral letter from referring facility			3	
Clinic				
Child's growth problem inadequately identified or classified	1	2	2	
Inadequate assessment for HIV (IMCI not used) at clinic/OPD	2	1	1	
Danger signs missed at clinic/OPD	3			
No follow up for child's nutritional problem at clinic/OPD		3		
Delayed referral of child with danger signs, from clinic/OPD			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	3	2		
Child not provided with adequate (quality and/or quantity) food at home	2		3	
'Traditional remedy', with negative effect on child		3	2	

DC31 NKANGALA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	81.6	83.8	84.8	86.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	34.9	52.7	53.6	53.7
Measles 2 nd dose coverage	84.8	78.1	77.5	101.0
Vitamin A dose 12 - 59 months coverage	49.6	52.3	60.1	62.1
Infant PCR test positive around 10 weeks rate	-	2.10	1.40	0.93
N ^o of HIV +ve children on ART	13 896	55 584	76 360	53 904
% with viral load suppression at 12 months	63.7	69.9	65.5	53.0
% children screened at facilities for TB	-	43.0	74.2	86.1
Diarrhoea incidence	7.9	5.6	1.6	1.1
Diarrhoea case fatality under 5 years rate	0.8	2.1	3.4	1.9
Pneumonia incidence	18.7	6.7	3.9	2.9
Pneumonia case fatality under 5 years rate	2.7	3.4	3.2	2.8
SAM incidence	2.2	1.1	0.8	0.7
SAM case fatality under 5 year rate	6.5	8.4	8.6	17.8
Infant Mortality				
Registered deaths (StatsSA)	494	406		
Hospital deaths (DHIS)	232	267	238	288
Hospital deaths (Child PIP)	78	72	61	
IMR (StatsSA)	23.9	19.2		
IHMR (DHIS)	7.3	9.0	8.0	9.0
IHMR (Child PIP)	3.2	3.3	3.3	
% deaths in health service	50.8	55.7		
N ^o deaths in District Hospital	97	101	109	139
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	135	159	129	149
Under-5 Mortality				
Registered deaths (StatsSA)	653	533		
Hospital deaths (DHIS)	258	298	257	314
Hospital deaths (Child PIP)	111	102	83	
U5MR (StatsSA)	31.6	25.2		
IHMR (DHIS)	5.6	7.0	5.9	7.2
IHMR (Child PIP)	2.3	2.3	2.3	
% deaths in health service	45.9	52.0		
N ^o deaths in District Hospital	114	117	118	159
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	144	174	139	155
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		9.6	14.2	10.7
Tuberculosis (A15-A19)		0.7	0.0	0.6
Other bacterial diseases (A30-A49)		1.5	0.0	1.1
HIV disease (B20-B24)		0.7	0.0	0.6
Other viral diseases (B25-B34)		1.5	0.0	1.1
Malnutrition (E40-E46)		1.2	7.9	2.8
Influenza and pneumonia (J09-J18)		8.9	9.4	9.0
Perinatal conditions 9P00-P96)		41.1	0.8	31.5
Congenital Disorders (Q00-Q99)		9.1	2.4	7.5
Ill defined/Miscellaneous conditions (R00-R99)		12.6	19.7	14.3
Non-natural (V01-Y98)		2.7	23.6	7.7
Other		10.3	22.0	13.1

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	8	8	8	
% severe malnutrition	29.1	35.0	22.9	
% HIV Infected or Exposed	43.3	35.9	41.7	
% Deaths within 24 hrs	33.9	40.2	38.5	
Total MFR/death	4.7	3.9	5.4	
MFR - Clinical Personnel	2.9	2.2	3.3	
MFR - Administrator	0.6	0.5	0.7	
MFR - Caregiver	1.2	1.1	1.4	
% - Ward	24.1	21.1	22.7	
% - A&E	33.3	29.5	33.5	
% - Referring Facility & Transit	6.0	7.1	6.6	
% - Clinic/OPD	10.4	12.6	10.7	
% - Home	26.3	29.7	26.6	
Ward				
Lack of High Care and/or ICU facilities for children	1	1	1	
Inadequate daily 'Care Plan' in ward	2			
Inadequate history taken in ward	3			
Inadequate intake-output charting in ward		2		
Inadequate number of nurses assigned to children's ward		3		
Insufficient notes on clinical care in ward (assess, manage, monitor)			2	
Critically ill child not reviewed by doctor during weekend/public holiday			3	
A&E/OPD				
Inadequate notes on clinical care at A&E	1	2	1	
Inadequate history taken at A&E	2	1	2	
Inadequate investigations (blood, x-ray, other) at A&E	3			
Child not triaged at A&E (spent time in a queue)		3		
Inadequate physical examination at A&E			3	
Referring facility				
No high care bed in referring facility for pre-transfer care of child	1	1	1	
Delayed arrival of ambulance at referring facility	2	2	2	
Inadequate record keeping system for proper transit care	3			
No or delayed referral to higher level		2	3	
Clinic				
Inadequate notes on clinical care (assess, classify, treat) at clinic	1	1	1	
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	2		3	
Inadequate referral letter from clinic to hospital	3	2	2	
Inadequate response to growth faltering or failure, at clinic/OPD		3		
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
Child not provided with adequate (quality and/or quantity) food at home				
'Traditional remedy' with negative effect on child	3	3	3	

Dc32 EHLANZENI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	85.1	95.0	108.4	108.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	39.0	46.9	48.9	51.1
Measles 2 nd dose coverage	96.8	100.9	92.6	94.6
Vitamin A dose 12 - 59 months coverage	71.6	68.6	73.8	71.1
Infant PCR test positive around 10 weeks rate	-	1.0	1.1	1.0
N ^o of HIV +ve children on ART	26 648	106 592	150 424	106 192
% with viral load suppression at 12 months	63.5	67.3	68.0	56.4
% children screened at facilities for TB	-	66.6	89.6	93.7
Diarrhoea incidence	6.9	6.7	3.6	1.4
Diarrhoea case fatality under 5 years rate	2.1	2.4	2.4	3.4
Pneumonia incidence	13.4	9.4	5.9	5.7
Pneumonia case fatality under 5 years rate	4.8	2.5	3.3	2.0
SAM incidence	2.7	1.3	1.1	0.6
SAM case fatality under 5 year rate	8.9	9.4	10.5	7.1
Infant Mortality				
Registered deaths (StatsSA)	551	428		
Hospital deaths (DHIS)	527	510	614	567
Hospital deaths (Child PIP)	241	147	192	
IMR (StatsSA)	14.1	10.8		
IHMR (DHIS)	11.3	13.4	16.1	16.6
IHMR (Child PIP)	5.9	4.4	4.9	
% deaths in health service	60.1	59.6		
N ^o deaths in District Hospital	290	250	365	298
N ^o deaths in Regional Hospital	131	124	110	135
N ^o deaths in Tertiary/Central Hospital	106	136	130	128
Under-5 Mortality				
Registered deaths (StatsSA)	827	658		
Hospital deaths (DHIS)	626	639	718	634
Hospital deaths (Child PIP)	313	226	271	
U5MR (StatsSA)	21.1	16.6		
IHMR (DHIS)	6.7	8.0	9.8	10.2
IHMR (Child PIP)	3.3	2.6	3.1	
% deaths in health service	51.5	51.2		
N ^o deaths in District Hospital	351	309	424	343
N ^o deaths in Regional Hospital	150	140	122	147
N ^o deaths in Tertiary/Central Hospital	125	190	159	138
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		11.0	11.7	11.2
Tuberculosis (A15-A19)		0.7	4.8	2.1
Other bacterial diseases (A30-A49)		0.7	2.2	1.2
HIV disease (B20-B24)		0.9	1.3	1.1
Other viral diseases (B25-B34)		0.9	3.5	1.8
Malnutrition (E40-E46)		2.1	7.0	3.8
Influenza and pneumonia (J09-J18)		6.3	10.0	7.6
Perinatal conditions 9P00-P96)		43.0	0.0	28.0
Congenital Disorders (Q00-Q99)		8.2	3.5	6.5
Ill defined/Miscellaneous conditions (R00-R99)		9.1	6.5	8.2
Non-natural (V01-Y98)		5.4	22.2	11.2
Other		11.7	27.4	17.2

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	11	11	11	
% severe malnutrition	26.2	23.5	24.7	
% HIV Infected or Exposed	46.0	36.7	35.9	
% Deaths within 24 hrs	32.8	32.1	33.3	
Total MFR/death	4.9	3.9	4.5	
MFR - Clinical Personnel	2.5	2.1	2.2	
MFR - Administrator	0.8	0.6	0.6	
MFR - Caregiver	1.6	1.2	1.6	
% - Ward	23.0	26.4	24.5	
% - A&E	25.6	28.9	28.1	
% - Referring Facility & Transit	5.9	5.7	4.7	
% - Clinic/OPD	10.4	6.8	8.6	
% - Home	35.1	32.2	34.1	
Ward				
Lack of High Care / ICU facilities for children	1	1	1	
Inadequate history taken in ward	3			
New danger signs inadequately identified while in ward	2			
Inadequate response to new danger signs		2	2	
Basic laboratory investigations not available to ward 24 hours a day		3		
RTHC information not present in child's folder			3	
A&E/OPD				
No hand-over of critically ill child from admitting doctor to ward doctor	1	1		
Inadequate notes on clinical care at A&E	2	2	1	
Lack of experienced doctors at A&E	3			
Inadequate history taken at A&E		3	2	
Emergency signs not recognised at A&E			3	
Referring facility				
No high care bed in referring facility for pre-transfer care of child			1	
Severity of child's condition incorrectly assessed at referring facility		2		
Inadequate assesment for HIV (IMCI not used) at clinic/OPD			3	
Inadequate referral letter from referring facility	2	3		
Inadequate notes on transit care			2	
No ambulance available for transfer from referring to receiving hospital	3	1		
Severity of child's condition incorrectly assessed at referring facility	1			
Clinic				
Inadequate assesment for HIV (IMCI not used) at clinic/OPD	1	1	1	
Danger signs missed at clinic/OPD	2			
Inadequate notes on clinical care (assess, classify, treat) at clinic	3	3		
Child's growth problem inadequately identified or classified		2	2	
Danger signs missed at clinic/OPD			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	3	3	2	
Child not provided with adequate (quality and/or quantity) food at home			3	
'Traditional remedy' with negative effect on child	2	2		

NORTH WEST

SOCIO-DEMOGRAPHIC PROFILE

	Province	Bojanala Platinum	NM Molema	Dr RS Mompoti	Dr K Kuanda
Demographic Profile					
Total population	3 975 891	1 753 848	968 781	480 942	772 320
Population density (people/km ²)	37.9	95.7	34.5	11.0	52.6
N ^o children < 5 years	400 609	170 123	95 909	58 675	77 232
N ^o children < 15 years	1 195 463	496 339	297 416	177 468	227 062
% of population < 5 years	10.1	9.7	9.9	12.2	10.0
% of population < 15 years	30.0	28.3	30.7	36.9	29.4
Annual births	55 094	16 437	16 580	9 594	12 483
Household profile					
% female headed households	35.2	30.1	41.2	43.5	37.0
% children who are orphans	13.3				
% children 5 - 6 years attending ECD centre	86.8				
% children 7 - 17 years attending school	95.7				
% population > 20 years with no schooling	8.7	12.3	26.0	34.6	18.8
% population > 20 years with no matric	63.5	67.5	74.3	77.3	69.3
% living in formal dwelling	78.3	70.7	82.7	89.9	86.4
% households with piped water in dwelling	44.4	23.2	23.8	16.5	47.7
% households using electricity for lighting	89.0	87.9	89.8	87.8	91.6
% households with flush sanitation	66.3	37.0	32.3	37.5	93.0
% households with weekly refuse removal	54.8	57.2	37.4	32.7	79.9
Unemployment rate	27.4	30.7	33.7	35.8	29.7
% children living in poverty	72.2				
% children >30 mins from health facility	25.3				
Health services					
N ^o Community Health Workers	6 059	1 368	2 272	1 285	1 134
N ^o PHC clinics	264	110	74	49	31
N ^o Community Health Centres	47	9	16	12	10
N ^o District Hospitals	13	3	5	4	1
N ^o Regional Hospitals	-	-	1	1	1
N ^o Tertiary/Central Hospitals	2	1	-	-	1
N ^o Other Hospitals	18	7	2	1	8
% Ideal PHC clinics	45.6	24.6	43.3	59.0	92.5
Medical aid coverage	11.9	14.0	9.7	7.3	12.8
Staffing (N^o / 100,000 population)					
Nursing Assistants	78.1	50.3	72.9	96.7	134.8
Enrolled nurses	27.5	19.0	25.8	40.1	40.4
Professional nurses	136.0	99.7	131.5	164.6	193.2
Dental practitioners	2.2	1.5	2.5	3.8	2.2
Medical practitioners	25.9	18.2	22.5	16.4	54.2
Medical specialists	3.5	1.5	1.7	2.0	11.6
Total N ^o Paediatrician	24				
Pharmacists	8.7	5.8	8.9	9.4	13.1
Occupational therapists	1.9	1.2	1.6	1.8	4.0
Physiotherapists	59.0	17.0	17.0	8.0	17.0
Maternal Health					
Antenatal 1 st visit coverage	78.1	80.8	78.9	80.7	70.6
Antenatal 1 st visit before 20 weeks rate	69.4	68.4	64.6	72.5	69.0
Delivery in 10 - 19 years in facility rate	13.3	11.9	15.1	15.3	12.1
Mother postnatal visit within 6 days	88.9	94.0	88.9	86.7	89.2
Maternal mortality ratio	137.4	81.2	189.3	58.2	226.1

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	69.0	69.4	68.4	62.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	45.8	55.8	56.3	59.6
Measles 2 nd dose coverage	75.3	72.5	68.8	66.8
Vitamin A dose 12 - 59 months coverage	43.7	41.9	42.6	41.6
Infant PCR test positive around 10 weeks rate	-	1.5	1.1	0.9
N ^o of HIV +ve children on ART	39 552	158 208	148 040	152 520
% with viral load suppression at 12 months	61.1	63.3	62.5	62.3
% children screened at facilities for TB	-	49.2	68.3	70.0
Diarrhoea incidence	5.6	5.9	5.6	5.1
Diarrhoea case fatality under 5 years rate	3.2	3.1	3.4	3.5
Pneumonia incidence	11.3	9.4	8.3	7.1
Pneumonia case fatality under 5 years rate	2.5	4.3	2.2	1.3
SAM incidence	6.4	3.9	3.8	4.0
SAM case fatality under 5 year rate	10.6	8.0	9.3	12.0
Infant Mortality				
Registered deaths (StatsSA)	2 221	1 986		
Hospital deaths (DHIS)	916	679	845	868
Hospital deaths (Child PIP)	325	258	277	
IMR (StatsSA)	40.2	35.4		
IHMR (DHIS)	7.9	9.4	10.6	9.5
IHMR (Child PIP)	5.4	4.8	4.8	
% deaths in health service	51.5	55.9		
N ^o deaths in District Hospital	277	231	302	274
N ^o deaths in Regional Hospital	253	88	206	199
N ^o deaths in Tertiary/Central Hospital	380	289	311	370
Under-5 Mortality				
Registered deaths (StatsSA)	2 958	2 523		
Hospital deaths (DHIS)	1 107	832	1 052	1 075
Hospital deaths (Child PIP)	502	387	408	
U5MR (StatsSA)	53.6	45.0		
IHMR (DHIS)	6.3	7.1	8.0	7.0
IHMR (Child PIP)	3.7	3.4	3.2	
% deaths in health service	47.7	52.4		
N ^o deaths in District Hospital	370	302	383	378
N ^o deaths in Regional Hospital	303	127	241	231
N ^o deaths in Tertiary/Central Hospital	427	332	402	441
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		9.1	12.1	9.7
Tuberculosis (A15-A19)		0.8	4.5	1.6
Other bacterial diseases (A30-A49)		1.6	1.5	1.6
HIV disease (B20-B24)		0.8	1.3	0.9
Other viral diseases (B25-B34)		1.0	3.2	1.4
Malnutrition (E40-E46)		4.2	13.6	6.2
Influenza and pneumonia (J09-J18)		7.7	9.9	8.2
Perinatal conditions 9P00-P96)		44.9	0.4	35.4
Congenital Disorders (Q00-Q99)		5.2	1.3	4.4
Ill defined/Miscellaneous conditions (R00-R99)		13.0	19.7	14.5
Non-natural (V01-Y98)		2.3	14.7	4.9
Other		9.5	17.9	11.3

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	18	19	21	
% children under-5 who died and had severe malnutrition	26.6	26.1	21.9	
% children under-5 who died and were HIV Infected or Exposed	32.8	32.2	27.2	
% Deaths within 24 hrs of admission to hospital	31.9	33.9	37.8	
Total MFR/death	3.2	3.5	3.4	
MFR - Clinical Personnel	1.8	2.1	2.1	
MFR - Administrator	0.3	0.3	0.4	
MFR - Caregiver	1.0	1.1	1.0	
% - Ward	28.1	30.5	28.8	
% - A&E	22.1	20.2	22.0	
% - Referring Facility & Transit	5.7	6.2	8.2	
% - Clinic/OPD	10.6	10.4	12.5	
% - Home	33.4	32.7	28.6	
Ward				
Other clinical personnel modifiable factor in ward	1			
Inadequate investigations in ward	2	1		
Inadequate revision of fluid management plan	3			
Doctor not called for critically ill child in ward		2		
WHO '10 Steps' not followed for child with severe malnutrition		3		
Lack of High Care and/or ICU facilities for children			1	
Inadequate response to new danger signs			2	
Danger signs missed due to inadequate monitoring in ward			3	
A&E/OPD				
Inadequate history taken at A&E	1	1	1	
Inadequate investigations (blood, x-ray, other) at A&E	2	3	3	
Inadequate notes on clinical care at A&E	3		2	
Inadequate rehydration plan at A&E		2		
Referring facility				
Inadequate notes on transit care	1			
No or delayed referral to higher level	2	3	1	
Inadequate referral letter from referring facility	3	2		
Severity of child's condition incorrectly assessed at referring facility		1	2	
Emergency or priority care not provided at referring hospital			3	
Clinic				
IMCI not used for case management at clinic/OPD	1			
IMCI not used for patient assessment at clinic/OPD	2	3	1	
Did not arrive at clinic/OPD on day of referral/did not keep appointment	3			
IMCI not used for patient assessment at clinic/OPD		1		
Inadequate response to growth faltering or failure, at clinic/OPD		2	2	
Delayed referral for severe malnutrition, weight loss, or growth faltering			3	
Home				
Caregiver delayed seeking care	1	1	1	
Caregiver did not recognise danger signs/severity of illness	2	2	2	
Child not provided with adequate (quality and/or quantity) food at home	3	3		
'Traditional remedy' with negative effect on child			3	

DC37 BOJANALA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	71.1	73.4	71.7	58.7
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	41.4	53.0	53.0	57.2
Measles 2 nd dose coverage	73.3	75.9	74.4	66.6
Vitamin A dose 12 - 59 months coverage	41.5	38.8	43.3	41.6
Infant PCR test positive around 10 weeks rate	49.4	64.6	68.2	63.9
N ^o of HIV +ve children on ART	18 314	73 256	68 912	70 992
% with viral load suppression at 12 months	65.4	68.2	65.0	66.3
% children screened at facilities for TB	-	49.2	69.2	71.7
Diarrhoea incidence	3.9	3.4	3.8	2.7
Diarrhoea case fatality under 5 years rate	3.6	4.3	2.5	2.6
Pneumonia incidence	6.1	4.1	3.9	3.0
Pneumonia case fatality under 5 years rate	3.2	5.6	1.7	1.0
SAM incidence	2.8	1.0	1.6	1.1
SAM case fatality under 5 year rate	12.9	7.8	9.6	16.0
Infant Mortality				
Registered deaths (StatsSA)	732	662		
Hospital deaths (DHIS)	332	273	302	317
Hospital deaths (Child PIP)	73	54	78	
IMR (StatsSA)	32.3	28.9		
IHMR (DHIS)	16.2	12.0	11.6	10.2
IHMR (Child PIP)	4.0	3.5	3.3	
% deaths in health service	47.3	56.2		
N ^o deaths in District Hospital	76	58	98	67
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	256	200	198	245
Under-5 Mortality				
Registered deaths (StatsSA)	970	809		
Hospital deaths (DHIS)	388	336	405	381
Hospital deaths (Child PIP)	94	73	110	
U5MR (StatsSA)	42.7	35.3		
IHMR (DHIS)	9.8	9.4	10.3	7.7
IHMR (Child PIP)	4.0	3.5	3.3	
% deaths in health service	43.4	51.4		
N ^o deaths in District Hospital	99	79	114	82
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	289	242	285	294
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		10.0	15.6	11.0
Tuberculosis (A15-A19)		0.5	2.7	0.9
Other bacterial diseases (A30-A49)		1.2	1.4	1.2
HIV disease (B20-B24)		0.6	1.4	0.7
Other viral diseases (B25-B34)		0.6	0.7	0.6
Malnutrition (E40-E46)		2.6	2.7	2.6
Influenza and pneumonia (J09-J18)		8.0	10.9	8.5
Perinatal conditions 9P00-P96)		48.6	0.0	39.8
Congenital Disorders (Q00-Q99)		4.8	1.4	4.2
Ill defined/Miscellaneous conditions (R00-R99)		11.2	14.3	11.7
Non-natural (V01-Y98)		2.6	21.8	6.1
Other		9.4	27.2	12.6

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	5	6	6	
	% children under-5 who died and had severe malnutrition	38.1	13.1	19.3	
	% children under-5 who died and were HIV Infected or Exposed	40.0	47.6	41.2	
	% Deaths within 24 hrs of admission to hospital	24.8	29.8	37.8	
	Total MFR/death	1.5	2.0	2.3	
	MFR - Clinical Personnel	0.9	1.2	1.2	
	MFR - Administrator	0.2	0.3	0.4	
	MFR - Caregiver	0.4	0.5	0.6	
	% - Ward	21.4	34.3	30.2	
	% - A&E	43.5	34.9	24.6	
	% - Referring Facility & Transit	1.9	1.8	7.5	
	% - Clinic/OPD	3.2	1.2	8.2	
	% - Home	29.9	27.7	29.5	
Ward					
	Lack of High Care and/or ICU facilities for children	1		2	
	New danger signs inadequately identified while in ward	2			
	Other administrator modifiable factor in ward	3			
	New danger signs inadequately identified while in ward		1		
	Inadequate monitoring of respiratory rate and/or oxygen saturation		2		
	Danger signs missed due to inadequate monitoring in ward		3		
	Inadequate 'septic workup' in ward			3	
A&E/OPD					
	Results of urgent investigations not obtained at A&E	1			
	Inadequate investigations (blood, x-ray, other) at A&E	2		3	
	Inadequate notes on clinical care at A&E		1	1	
	Not classified as critically ill despite presence of danger signs at A&E		2		
	Inadequate history taken at A&E		3	2	
Referring facility					
	No or delayed referral to higher level	1			
	Severity of child's condition incorrectly assessed at referring facility	2		1	
	Inadequate referral letter from referring facility	3		2	
	Severity of child's condition incorrectly assessed at referring facility		1		
	Inappropriate care or late referral from private sector/GP		2		
	Inadequate critical care consumables in referring facility		3		
	Emergency or priority care not provided at referring hospital			3	
Clinic					
	Inadequate assesment for HIV (IMCI not used) at clinic/OPD	1			
	IMCI not used for case management at clinic/OPD	2			
	Caregiver did not bring RTHC and/or referral letter to clinic	3			
	Did not arrive at clinic/OPD on day of referral/did not keep appointment		1		
	IMCI not used for patient assessment at clinic/OPD		2		
	NONE		3		
	Child's growth problem inadequately identified or classified			1	
	Delayed referral of child with danger signs, from clinic/OPD			2	
	Inadequate intravenous sets or solutions at clinic/OPD			3	
Home					
	Caregiver delayed seeking care	1	1	2	
	Caregiver did not recognise danger signs/severity of illness	2	2	3	
	Child not provided with adequate (quality and/or quantity) food at home	3			
	Insufficient notes on home circumstances or child's health history		3	1	
	Caregiver delayed seeking care			2	

DC38 NGAKA MODIRI MOLEMA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	69.3	66.3	62.2	64.6
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	47.2	59.2	57.4	59.9
Measles 2 nd dose coverage	75.5	68.9	61.8	64.3
Vitamin A dose 12 - 59 months coverage	45.2	40.3	39.3	39.9
Infant PCR test positive around 10 weeks rate	-	2.30	1.00	0.99
N ^o of HIV +ve children on ART	8 800	35 200	31 168	32 112
% with viral load suppression at 12 months	54.0	57.5	62.0	59.8
% children screened at facilities for TB	-	50.8	68.3	71.3
Diarrhoea incidence	9.9	12.8	7.4	8.2
Diarrhoea case fatality under 5 years rate	3.1	2.0	3.2	2.9
Pneumonia incidence	15.0	14.5	9.3	8.6
Pneumonia case fatality under 5 years rate	2.6	4.8	2.7	2.1
SAM incidence	9.4	6.6	2.7	4.8
SAM case fatality under 5 year rate	12.1	6.6	4.3	10.0
Infant Mortality				
Registered deaths (StatsSA)	665	606		
Hospital deaths (DHIS)	253	101	210	225
Hospital deaths (Child PIP)	96	70	87	
IMR (StatsSA)	60.7	54.3		
IHMR (DHIS)	4.5	8.9	13.3	11.1
IHMR (Child PIP)	5.5	4.7	6.0	
% deaths in health service	49.3	54.5		
N ^o deaths in District Hospital	102	89	87	96
N ^o deaths in Regional Hospital	151	3	119	120
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	911	795		
Hospital deaths (DHIS)	347	158	254	299
Hospital deaths (Child PIP)	159	127	137	
U5MR (StatsSA)	83.2	71.3		
IHMR (DHIS)	5.1	7.1	8.6	8.1
IHMR (Child PIP)	3.7	3.3	3.7	
% deaths in health service	45.7	50		
N ^o deaths in District Hospital	153	117	110	145
N ^o deaths in Regional Hospital	194	32	140	145
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		8.7	11.1	9.3
Tuberculosis (A15-A19)		0.3	3.7	1.1
Other bacterial diseases (A30-A49)		2.1	2.6	2.3
HIV disease (B20-B24)		0.0	0.5	0.1
Other viral diseases (B25-B34)		1.0	2.1	1.3
Malnutrition (E40-E46)		3.5	12.2	5.5
Influenza and pneumonia (J09-J18)		6.1	10.1	7.0
Perinatal conditions 9P00-P96)		47.0	1.1	36.1
Congenital Disorders (Q00-Q99)		4.1	0.5	3.3
Ill defined/Miscellaneous conditions (R00-R99)		17.8	29.1	20.5
Non-natural (V01-Y98)		2.0	13.8	4.8
Other		7.3	13.2	8.7

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	4	5	
% children under-5 who died and had severe malnutrition	58.9	50.3	47.3	
% children under-5 who died and were HIV Infected or Exposed	27.8	28.6	24.0	
% Deaths within 24 hrs of admission to hospital	33.9	29.5	34.9	
Total MFR/death	3.2	2.7	2.8	
MFR - Clinical Personnel	1.7	1.4	1.7	
MFR - Administrator	0.3	0.1	0.3	
MFR - Caregiver	1.2	1.1	0.7	
% - Ward	29.5	28.0	36.5	
% - A&E	18.1	14.8	20.3	
% - Referring Facility & Transit	3.5	1.3	2.9	
% - Clinic/OPD	11.4	13.0	16.9	
% - Home	37.4	43.0	23.4	
Ward				
Other clinical personnel modifiable factor in ward	1	1	2	
Inadequate investigations in ward	2	2	1	
Lack of High Care and/or ICU facilities for children	3			
Inadequate TB assessment in ward		3		
Inadequate antibiotics prescribed in ward			3	
A&E/OPD				
Inadequate rehydration plan at A&E	1	2	3	
Inadequate investigations (blood, x-ray, other) at A&E	2	3	2	
Inadequate assessment of dehydration at A&E	3			
Other clinical personnel modifiable factor at A&E		1	1	
Referring facility				
No or delayed referral to higher level	1	1	2	
Emergency or priority care not provided at referring hospital	2		1	
Severity of child's condition incorrectly assessed at referring facility	3	2	3	
Inadequate referral letter from referring facility		3		
Clinic				
Inadequate fluid management for diarrhoeal disease with dehydration	1			
IMCI not used for patient assessment at clinic/OPD	2	3	1	
HIV result not obtained/documented at clinic/OPD	3			
Inadequate response to growth faltering or failure, at clinic/OPD		1	2	
Child had household TB contact, but no contact tracing was done		2		
Growth not plotted correctly on RTHC			3	
Home				
Child not provided with adequate (quality and/or quantity) food at home	1	2		
Caregiver delayed seeking care	2	1	1	
Caregiver did not recognise danger signs/severity of illness	3		2	
'Traditional remedy' with negative effect on child		3	3	

DC39 DR RUTH SEGOMOTSI MOMPATI

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	70.1	69.9	73.9	62.2
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	55.3	53.0	53.8	62.8
Measles 2 nd dose coverage	78.4	76.7	72.1	70.6
Vitamin A dose 12 - 59 months coverage	47.3	47.1	41.1	39.4
Infant PCR test positive around 10 weeks rate	-	1.70	1.60	0.80
N ^o of HIV +ve children on ART	4 458	17 832	15 848	16 328
% with viral load suppression at 12 months	67.3	58.3	67.3	83.3
% children screened at facilities for TB	-	32.3	50.3	51.1
Diarrhoea incidence	5.4	5.7	8.9	10.7
Diarrhoea case fatality under 5 years rate	4.0	9.8	6.8	5.5
Pneumonia incidence	13.4	12.2	12.6	12.2
Pneumonia case fatality under 5 years rate	2.8	6.5	3.2	1.4
SAM incidence	13.1	9.2	10.4	8.1
SAM case fatality under 5 year rate	9.1	9.9	11.5	14.1
Infant Mortality				
Registered deaths (StatsSA)	459	340		
Hospital deaths (DHIS)	144	137	157	158
Hospital deaths (Child PIP)	83	71	67	
IMR (StatsSA)	48.6	27.6		
IHMR (DHIS)	11.4	13.4	15.1	14.7
IHMR (Child PIP)	5.9	7.1	6.0	
% deaths in health service	54.9	56.2		
N ^o deaths in District Hospital	86	75	94	91
N ^o deaths in Regional Hospital	58	53	59	60
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	611	453		
Hospital deaths (DHIS)	160	161	200	198
Hospital deaths (Child PIP)	134	101	91	
U5MR (StatsSA)	64.8	36.8		
IHMR (DHIS)	5.9	7.9	9.2	8.7
IHMR (Child PIP)	4.1	4.5	3.8	
% deaths in health service	50.2	53.0		
N ^o deaths in District Hospital	99	90	125	124
N ^o deaths in Regional Hospital	61	62	71	67
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		10.6	13.3	11.3
Tuberculosis (A15-A19)		1.8	3.5	2.2
Other bacterial diseases (A30-A49)		1.5	0.0	1.1
HIV disease (B20-B24)		2.1	1.8	2.0
Other viral diseases (B25-B34)		2.1	9.7	4.0
Malnutrition (E40-E46)		8.8	27.4	13.5
Influenza and pneumonia (J09-J18)		7.9	8.8	8.2
Perinatal conditions 9P00-P96)		41.2	0.0	30.9
Congenital Disorders (Q00-Q99)		1.5	1.8	1.5
Ill defined/Miscellaneous conditions (R00-R99)		10.0	13.3	10.8
Non-natural (V01-Y98)		1.5	9.7	3.5
Other		11.2	10.6	11.0

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	5	5	5	
% children under-5 who died and had severe malnutrition	54.8	44.6	46.7	
% children under-5 who died and were HIV Infected or Exposed	28.9	26.7	16.3	
% Deaths within 24 hrs of admission to hospital	30.4	35.0	43.5	
Total MFR/death	4.6	5.5	5.2	
MFR - Clinical Personnel	3.1	3.9	3.3	
MFR - Administrator	0.3	0.4	0.5	
MFR - Caregiver	1.2	1.2	1.4	
% - Ward	30.8	37.6	25.6	
% - A&E	21.7	24.3	23.1	
% - Referring Facility & Transit	7.8	7.3	8.8	
% - Clinic/OPD	10.2	7.3	11.7	
% - Home	29.4	23.4	30.8	
Ward				
Insufficient notes on clinical care in ward	1			
Inadequate history taken in ward	2			
Inadequate review of child with severe dehydration	3			
Doctor not called for critically ill child in ward		1		
Inadequate physical examination in ward		2		
New danger signs inadequately identified while in ward		3		
Inadequate response to new danger signs			1	
Lack of High Care and/or ICU facilities for children			2	
New danger signs inadequately identified while in ward			3	
A&E/OPD				
Inadequate history taken at A&E	1	1	1	
Inadequate notes on clinical care at A&E	2			
Inadequate rehydration plan at A&E		2		
Inadequate physical examination at A&E		3		
Inadequate history taken at A&E			1	
Inadequate notes on clinical care at A&E			2	
Inadequate assessment of dehydration at A&E	3		3	
Referring facility				
Inadequate notes on transit care	1	2	2	
Inadequate referral letter from referring facility	2	1		
Emergency or priority care not provided at referring hospital	3		1	
No or delayed referral to higher level		2	2	
Severity of child's condition incorrectly assessed at referring facility			3	
Clinic				
IMCI not used for patient assessment at clinic/OPD	1	1	1	
Inadequate notes on clinical care (assess, classify, treat) at clinic	2	2		
Child's growth problem inadequately identified or classified	3			
Inadequate IMCI implementation at clinic/OPD		3		
Delayed referral for severe malnutrition, weight loss, growth faltering			2	
No documentation of mother's antenatal HIV status			3	
Home				
Caregiver delayed seeking care	1	2	1	
Caregiver did not recognise danger signs/severity of illness	2	1	2	
Child not provided with adequate (quality / quantity) food at home	3	3	3	

DC40 DR KENNETH KAUNDA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	60.8	65.0	65.6	69.5
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	45.3	60.4	64.2	62.0
Measles 2 nd dose coverage	77.4	66.5	63.2	66.0
Vitamin A dose 12 - 59 months coverage	43.3	47.0	46.4	45.7
Infant PCR test positive around 10 weeks rate	-	1.50	0.74	0.92
N ^o of HIV +ve children on ART	7 980	31 920	32 112	33 088
% with viral load suppression at 12 months	57.0	60.0	53.1	49.2
% children screened at facilities for TB	-	62.6	83.5	82.7
Diarrhoea incidence	3.9	2.7	4.6	2.4
Diarrhoea case fatality under 5 years rate	-	62.6	83.5	82.7
Pneumonia incidence	2.0	1.3	0.6	0.3
Pneumonia case fatality under 5 years rate	1.2	0.5	1.2	0.3
SAM incidence	5.4	2.4	4.8	6.1
SAM case fatality under 5 year rate	9.4	7.6	15.6	8.6
Infant Mortality				
Registered deaths (StatsSA)	363	378		
Hospital deaths (DHIS)	187	168	176	168
Hospital deaths (Child PIP)	73	63	70	
IMR (StatsSA)	29.9	38.8		
IHMR (DHIS)	7.0	6.1	6.3	5.8
IHMR (Child PIP)	4.1	3.7	3.4	
% deaths in health service	59.5	57.4		
N ^o deaths in District Hospital	13	9	23	20
N ^o deaths in Regional Hospital	44	32	28	19
N ^o deaths in Tertiary/Central Hospital	124	89	113	125
Under-5 Mortality				
Registered deaths (StatsSA)	463	466		
Hospital deaths (DHIS)	212	177	193	197
Hospital deaths (Child PIP)	115	86	70	
U5MR (StatsSA)	38.2	47.9		
IHMR (DHIS)	5.2	4.5	4.6	4.4
IHMR (Child PIP)	2.8	2.6	2.2	
% deaths in health service	57.0	57.1		
N ^o deaths in District Hospital	19	16	34	27
N ^o deaths in Regional Hospital	48	33	30	19
N ^o deaths in Tertiary/Central Hospital	138	90	117	147
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.6	6.8	6.7
Tuberculosis (A15-A19)		1.3	10.2	3.0
Other bacterial diseases (A30-A49)		1.6	1.1	1.5
HIV disease (B20-B24)		1.3	2.3	1.5
Other viral diseases (B25-B34)		0.5	1.1	0.6
Malnutrition (E40-E46)		4.2	17.0	6.7
Influenza and pneumonia (J09-J18)		9.5	9.1	9.4
Perinatal conditions (P00-P96)		38.1	0.0	30.9
Congenital Disorders (Q00-Q99)		10.8	2.3	9.2
Ill defined/Miscellaneous conditions (R00-R99)		11.4	17.0	12.4
Non-natural (V01-Y98)		2.9	11.4	4.5
Other		11.6	21.6	13.5

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	4	5	
% children under-5 who died and had severe malnutrition	31.9	30.9	26.3	
% children under-5 who died and were HIV Infected or Exposed	37.7	29.8	25.0	
% Deaths within 24 hrs of admission to hospital	36.2	43.5	36.4	
Total MFR/death	3.0	3.9	4.4	
MFR - Clinical Personnel	1.6	2.2	2.5	
MFR - Administrator	0.4	0.4	0.5	
MFR - Caregiver	1.1	1.4	1.4	
% - Ward	24.7	20.9	22.9	
% - A&E	20.4	13.3	20.4	
% - Referring Facility & Transit	7.0	11.7	14.2	
% - Clinic/OPD	12.7	16.3	11.6	
% - Home	35.3	37.9	30.9	
Ward				
Inadequate number of nurses assigned to children's ward	1			
Inadequate revision of fluid management plan	2		2	
Too much/too little, incorrect type of IV fluids given in ward	3			
Other administrator modifiable factor in ward		1		
WHO '10 Steps' not followed for child with severe malnutrition		2		
Inadequate intake-output charting in ward		3		
Other administrator modifiable factor in ward			1	
Danger signs missed due to inadequate monitoring in ward			3	
A&E/OPD				
Other clinical personnel modifiable factor at A&E	1		1	
Inadequate physical examination at A&E	2			
Appropriate antibiotics not prescribed at A&E	3	2		
Inadequate rehydration plan at A&E		1		
Inadequate treatment of shock in A&E (fluid type, amount, rate)		3		
Emergency signs not recognised at A&E			2	
Inadequate notes on clinical care at A&E			3	
Referring facility				
No or delayed referral to higher level	1			
Inadequate notes on transit care	3			
Emergency or priority care not provided at referring hospital		2	2	
Other clinical personnel modifiable factor in transit care		3		
Inadequate referral letter from referring facility			1	
Emergency or priority care not provided at referring hospital			2	
Severity of child's condition incorrectly assessed at referring facility	2	1	3	
Clinic				
IMCI not used for case management at clinic/OPD	1			
Danger signs missed at clinic/OPD	2	1		
Did not arrive at clinic/OPD on day of referral/did not keep appointment	3			
Inadequate response to danger signs at clinic/OPD		2		
Inadequate response to growth faltering or failure, at clinic/OPD		3	1	
Other administrator modifiable factor at clinic/OPD			2	
RTHC inadequately documents child's health history			3	
Home				
Caregiver delayed seeking care	1	1	2	
Caregiver did not recognise danger signs/severity of illness	2		1	
Child not provided with adequate (quality and/or quantity) food at home	3	2	3	
'Traditional remedy' with negative effect on child		3		

NORTHERN CAPE

SOCIO-DEMOGRAPHIC PROFILE

Demographic Profile		Province	Namakwa	Pixley ka Seme	ZE Mgcawu	Frances Baard	JT Gaetsewe
	Total population	1 220 189	113 429	211 973	266 691	381 624	246 472
	Population density (people/km ²)	3.3	0.9	2.0	2.6	29.7	9.0
	N ^o children < 5 years	124 890	9 074	18 230	20 535	32 438	24 894
	N ^o children < 15 years	366 626	28 584	57 445	64 273	101 894	78 625
	% of population < 5 years	10.2	8.0	8.6	7.7	8.5	10.1
	% of population < 15 years	30.0	25.2	27.1	24.1	26.7	31.9
	Annual births	24 195	1 657	3 015	4 889	9 298	5 336
Household profile							
	% female headed households	15.1	17.5	13.1	15.8	15.7	13.9
	% children who are orphans	10.7					
	% children 5 - 6 years attending ECD centre	90					
	% children 7 - 17 years attending school	95.2					
	% population > 20 years with no schooling	7.9	4.5	12.1	6.2	7.2	10.1
	% population > 20 years with no matric	65.7	75.8	76	71.5	70	74.5
	% living in formal dwelling	83.5	95.2	89	75.9	837	80.6
	% households with piped water in dwelling	43.7	70.5	45.1	45.6	48.4	19.2
	% households using electricity for lighting	88.8	89	90.4	86.8	90.7	86.8
	% households with flush sanitation	87.2	67.9	72.6	65.7	78.4	27.3
	% households with weekly refuse removal	61.8	81.7	74.2	67.6	69.3	24
	Unemployment rate	31.5	20.1	28.3	19.2	34	29.7
	% children living in poverty	64.6					
	% children >30 mins from health facility	14.6					
Health services							
	N ^o Community Health Workers	2553	171	416	318	773	874
	N ^o PHC clinics	127	23	28	14	25	37
	N ^o Community Health Centres	33	10	8	6	4	5
	N ^o District Hospitals	11	2	3	2	2	2
	N ^o Regional Hospitals	1	0	0	1	0	0
	N ^o Tertiary/Central Hospitals	1	0	0	0	1	0
	N ^o Other Hospitals	8	2	0	1	4	1
	% Ideal PHC clinics	57.1	24.2	80.6	76.2	58.6	52.4
	Medical aid coverage	15.1	17.5	13.1	15.8	15.7	13.9
Staffing (N ^o / 100,000 population)							
	Nursing Assistants	82.6	89.8	79.8	85.1	99.2	54.2
	Enrolled nurses	22.9	32.1	21.7	26.3	26.4	10.8
	Professional nurses	147.0	158.2	116.2	111.8	181.8	127.7
	Dental practitioners	3.8	6.4	3.8	2.2	5.9	1.0
	Medical practitioners	42.2	22.4	10.9	26.3	97.6	9.4
	Medical specialists	2.3			0.5	6.5	0.5
	Total N ^o Paediatricians	21					
	Pharmacists	17.2	12.8	17.9	11.1	23.6	5.7
	Occupational therapists	5.4	7.5	3.3	4.0	9.3	1.9
	Physiotherapists	5.9	11.8	3.3	5.8	8.1	2.4
Maternal Health							
	Antenatal 1 st visit coverage	107.3	83.0	86.5	113.0	122.5	108.6
	Antenatal 1 st visit before 20 weeks rate	63.1	68.1	68.5	65.1	59.6	60.8
	Delivery in 10 - 19 years in facility rate	18.4	17.7	19.9	18.3	16.6	21.1
	Mother postnatal visit within 6 days	65.3	50.8	73.5	55.8	55.7	91.0
	Maternal mortality ratio	71.3	62.7	94.5	106.5	44.8	73.2

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	90.9	84.2	87.5	89.3
Exclusively breastfed at DTap-IPV-Hib-HBV 3 rd dose	55.0	56.0	55.3	56.0
Measles 2 nd dose coverage	105.1	87.9	86.3	89.4
Vitamin A dose 12 - 59 months coverage	52.1	50.6	48.2	48.4
Infant PCR test positive around 10 weeks rate	-	1.7	1.4	1.4
N ^o of HIV +ve children on ART	8 192	32 768	30 480	31 504
% with viral load suppression at 12 months	59.6	70.4	55.7	51.1
% children screened at facilities for TB	-	34.1	51.9	64.9
Diarrhoea incidence	9.0	7.4	8.5	11.4
Diarrhoea case fatality under 5 years rate	3.8	1.7	2.4	1.5
Pneumonia incidence	20.3	20.7	25.6	27.7
Pneumonia case fatality under 5 years rate	1.6	1.9	2.3	1.7
SAM incidence	4.7	5.1	6.5	8.3
SAM case fatality under 5 year rate	5.1	6.1	4.3	4.7
Infant Mortality				
Registered deaths (StatsSA)	821	694		
Hospital deaths (DHIS)	415	299	322	427
Hospital deaths (Child PIP)	71	88	40	
IMR (StatsSA)	35.5	29.6		
IHMR (DHIS)	6.4	6.0	6.6	8.5
IHMR (Child PIP)	2.2	2.0	1.1	
% deaths in health service	43.5	71.0		
N ^o deaths in District Hospital	194	121	112	135
N ^o deaths in Regional Hospital	41	23	32	51
N ^o deaths in Tertiary/Central Hospital	154	139	162	210
Under-5 Mortality				
Registered deaths (StatsSA)	1 062	881		
Hospital deaths (DHIS)	487	354	378	480
Hospital deaths (Child PIP)	117	164	62	
U5MR (StatsSA)	46.0	37.6		
IHMR (DHIS)	4.3	4.2	4.5	5.7
IHMR (Child PIP)	1.6	1.5	0.9	
% deaths in health service	42.1	69.1		
N ^o deaths in District Hospital	233	135	128	156
N ^o deaths in Regional Hospital	46	29	35	54
N ^o deaths in Tertiary/Central Hospital	181	172	197	237
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		4.0	3.3	3.9
Tuberculosis (A15-A19)		0.5	3.3	0.9
Other bacterial diseases (A30-A49)		1.5	2.3	1.6
HIV disease (B20-B24)		0.4	2.0	0.7
Other viral diseases (B25-B34)		0.6	0.7	0.6
Malnutrition (E40-E46)		0.7	2.7	1.0
Influenza and pneumonia (J09-J18)		6.3	3.7	5.8
Perinatal conditions 9P00-P96)		45.9	0.3	38.4
Congenital Disorders (Q00-Q99)		12.2	7.6	11.5
Ill defined/Miscellaneous conditions (R00-R99)		16.9	16.6	16.9
Non-natural (V01-Y98)		1.6	29.2	6.2
Other		9.5	28.2	12.6

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	11	16	18	
	% children under-5 who died and had severe malnutrition	27.3	33.2	26.9	
	% children under-5 who died and were HIV Infected or Exposed	28.8	27.5	20.5	
	% Deaths within 24 hrs of admission to hospital	30.2	37.1	45.8	
	Total MFR/death	2.6	3.7	2.4	
	MFR - Clinical Personnel	1.0	1.7	1.0	
	MFR - Administrator	0.3	0.5	0.4	
	MFR - Caregiver	1.3	1.5	1.0	
	% - Ward	17.9	18.5	24.2	
	% - A&E	9.8	9.8	11.8	
	% - Referring Facility & Transit	9.5	12.4	9.1	
	% - Clinic/OPD	11.8	15.3	7.0	
	% - Home	51.0	43.9	47.8	
Ward					
	Inadequate response to new danger signs	1	2		
	Inadequate review of child with severe dehydration	2			
	Insufficient notes on clinical care in ward (assess, manage, monitor)	3			
	New danger signs inadequately identified while in ward		1	1	
	Inadequate number of nurses assigned to children's ward		3		
	Lack of professional nurse in children's ward 24 hours a day			2	
	Inadequate response to non-responding ARI/pneumonia			3	
A&E/OPD					
	Appropriate antibiotics not prescribed at A&E	1			
	Inadequate history taken at A&E	2			
	Inadequate physical examination at A&E	3			
	Inadequate emergency care plan in A&E		1		
	Lack of experienced doctors at A&E		2		
	Caregiver did not bring RTHC and/or referral letter to A&E		3		
	No home/community IMCI in health subdistrict			1	
	Inadequate rehydration plan at A&E			2	
	Inadequate assessment of shock at A&E			3	
Referring facility					
	No or delayed referral to higher level	1	2	3	
	Delayed arrival of ambulance at referring facility	2			
	No plan for transporting caregiver to receiving facility	3			
	Severity of child's condition incorrectly assessed at referring facility		1	1	
	Inadequate referral letter from referring facility		3		
	Inadequate notes on transit care			2	
Clinic					
	Caregiver did not bring RTHC and/or referral letter to clinic	1			
	Inadequate response to growth faltering or failure, at clinic/OPD	2			
	Danger signs missed at clinic/OPD	3	3		
	Child's growth problem inadequately identified or classified		1		
	Insufficient assessment for chronic illness at clinic/OPD		2		
	Inadequate IMCI implementation at clinic/OPD			1	
	Did not arrive at clinic/OPD on day of referral/did not keep appointment			2	
	Delayed referral of child with danger signs, from clinic/OPD			3	
Home					
	Caregiver did not recognise danger signs/severity of illness	1			
	Child not provided with adequate (quality and/or quantity) food at home	2	3	2	
	Caregiver delayed seeking care	3	2	3	
	Caregiver did not recognise danger signs/severity of illness		1	1	

DC6 NAMAKWA

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	85.6	81.9	83.8	81.1
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	58.2	56.4	56.3	53.3
Measles 2 nd dose coverage	90.9	76.9	76.7	80.5
Vitamin A dose 12 - 59 months coverage	43.2	39.2	42.9	44.5
Infant PCR test positive around 10 weeks rate	-	3.0	0.0	0.0
N ^o of HIV +ve children on ART	268	1 072	944	976
% with viral load suppression at 12 months	33.3	75.0	60.0	33.3
% children screened at facilities for TB	-	43.8	76.2	80.7
Diarrhoea incidence	11.5	7.3	7.7	11.6
Diarrhoea case fatality under 5 years rate	1.5	-	-	1.8
Pneumonia incidence	21.2	27.8	23.2	22.1
Pneumonia case fatality under 5 years rate	1.7	1.1	-	-
SAM incidence	1.9	3.2	3.6	3.3
SAM case fatality under 5 year rate	-	-	4.0	3.7
Infant Mortality				
Registered deaths (StatsSA)	35	52		
Hospital deaths (DHIS)	26	17	19	26
Hospital deaths (Child PIP)				
IMR (StatsSA)	23.1	34.0		
IHMR (DHIS)	5.2	3.8	3.6	4.6
IHMR (Child PIP)				
% deaths in health service	48.6	73.1		
N ^o deaths in District Hospital	17	14	16	20
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	45	61		
Hospital deaths (DHIS)	29	18	19	27
Hospital deaths (Child PIP)				
U5MR (StatsSA)	29.7	39.9		
IHMR (DHIS)	2.8	2.1	2.0	2.8
IHMR (Child PIP)				
% deaths in health service	44.4	68.9		
N ^o deaths in District Hospital	19	15	16	20
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		5.8	0.0	4.9
Tuberculosis (A15-A19)		0.0	0.0	0.0
Other bacterial diseases (A30-A49)		1.9	22.2	4.9
HIV disease (B20-B24)		0.0	0.0	0.0
Other viral diseases (B25-B34)		0.0	0.0	0.0
Malnutrition (E40-E46)		0.0	0.0	0.0
Influenza and pneumonia (J09-J18)		7.7	11.1	8.2
Perinatal conditions 9P00-P96)		65.4	0.0	55.7
Congenital Disorders (Q00-Q99)		3.8	11.1	4.9
Ill defined/Miscellaneous conditions (R00-R99)		3.8	11.1	4.9
Non-natural (V01-Y98)		3.8	44.4	9.8
Other		7.7	0.0	6.6

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	0	0	0	0
	% children under-5 who died and had severe malnutrition	-	-	-	
	% children under-5 who died and were HIV Infected or Exposed	-	-	-	
	% Deaths within 24 hrs of admission to hospital	-	-	-	
	Total MFR/death	-	-	-	
	MFR - Clinical Personnel	-	-	-	
	MFR - Administrator	-	-	-	
	MFR - Caregiver	-	-	-	
	% - Ward	-	-	-	
	% - A&E	-	-	-	
	% - Referring Facility & Transit	-	-	-	
	% - Clinic/OPD	-	-	-	
	% - Home	-	-	-	
NO DATA ON MODIFIABLE FACTORS					

DC7 PIXLEY KA SEME

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	71.1	73.6	74.0	70.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	56.6	61.7	61.3	63.3
Measles 2 nd dose coverage	99.6	84.5	85.0	74.0
Vitamin A dose 12 - 59 months coverage	36.8	45.0	40.9	39.3
Infant PCR test positive around 10 weeks rate	-	2.1	0.9	1.3
N ^o of HIV +ve children on ART	1 048	4 192	3 992	4 128
% with viral load suppression at 12 months	61	75	68	58
% children screened at facilities for TB	-	40.5	49.5	63.3
Diarrhoea incidence	9.0	5.6	5.1	12.0
Diarrhoea case fatality under 5 years rate	3.3	6.9	-	-
Pneumonia incidence	16.3	18.8	15.1	15.3
Pneumonia case fatality under 5 years rate	3.6	19.0	2.1	1.2
SAM incidence	5.6	6.3	4.7	7.8
SAM case fatality under 5 year rate	7.6	12.5	1.8	3.2
Infant Mortality				
Registered deaths (StatsSA)	253	137		
Hospital deaths (DHIS)	51	35	29	36
Hospital deaths (Child PIP)	13	18	12	
IMR (StatsSA)	88.0	45.9		
IHMR (DHIS)	5.8	5.5	4.8	5.4
IHMR (Child PIP)	2.0	3.4	1.2	
% deaths in health service	42.7	57.7		
N ^o deaths in District Hospital	35	31	22	23
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	326	176		
Hospital deaths (DHIS)	60	42	33	40
Hospital deaths (Child PIP)	18	39	23	
U5MR (StatsSA)	113.4	59.0		
IHMR (DHIS)	3.3	3.3	2.7	3.0
IHMR (Child PIP)	1.6	2.0	0.6	
% deaths in health service	42.9	551.0		
N ^o deaths in District Hospital	44	36	26	27
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.6	15.4	6.3
Tuberculosis (A15-A19)		1.5	5.1	2.3
Other bacterial diseases (A30-A49)		0.0	2.6	0.6
HIV disease (B20-B24)		0.7	5.1	1.7
Other viral diseases (B25-B34)		0.0	2.6	0.6
Malnutrition (E40-E46)		5.1	10.3	6.3
Influenza and pneumonia (J09-J18)		6.6	2.6	5.7
Perinatal conditions 9P00-P96)		41.6	0.0	32.4
Congenital Disorders (Q00-Q99)		5.8	2.6	5.1
Ill defined/Miscellaneous conditions (R00-R99)		19.0	2.6	15.3
Non-natural (V01-Y98)		8.0	25.6	11.9
Other		8.0	25.6	11.9

		2016	2017	2018	2019
Modifiable Factors					
	N ^o hospitals doing Child PIP	6	9	9	
	% children under-5 who died and had severe malnutrition	0.0	42.9	35.3	
	% children under-5 who died and were HIV Infected or Exposed	22.2	14.3	17.6	
	% Deaths within 24 hrs of admission to hospital	27.8	56.3	85.7	
	Total MFR/death	1.4	3.9	2.4	
	MFR - Clinical Personnel	0.5	1.4	0.4	
	MFR - Administrator	0.1	1.3	0.8	
	MFR - Caregiver	0.8	1.2	1.2	
	% - Ward	24.0	22.0	20.0	
	% - A&E	16.0	13.8	7.5	
	% - Referring Facility & Transit	4.0	6.4	10.0	
	% - Clinic/OPD	4.0	13.8	7.5	
	% - Home	52.0	44.0	55.0	
Ward					
	Inadequate history taken in ward	1			
	Lack of professional nurse in children's ward 24 hours a day	2		1	
	New danger signs inadequately identified while in ward	3	3	2	
	Inadequate number of nurses assigned to children's ward		1		
	No functioning pulse oxymeter in ward		2		
	Inadequate monitoring of respiratory rate and/or oxygen saturation			3	
A&E/OPD					
	Accompanying caregiver knew little about the child at A&E	1			
	Inadequate treatment of shock in A&E	2			
	Inadequate history taken at A&E	3			
	Hydration not reviewed at A&E		1		
	Shock not monitored while awaiting admission, at A&E		2		
	Inadequate emergency care plan in A&E		3		
	No home/community IMCI in health subdistrict			1	
	Lack of experienced doctors at A&E			2	
	Intravenous phenobarbitone not available at A&E			3	
Referring facility					
	Other caregiver modifiable factor in transit care	1			
	Delayed arrival of ambulance at referring facility		1	1	
	Inadequate monitoring and critical care equipment in ambulance		2		
	No or delayed referral to higher level		3		
	Inadequate notes on transit care			2	
	Inadequate ambulance service from health facility to receiving hospital			3	
Clinic					
	Danger signs missed at clinic/OPD	1			
	No follow up for child's nutritional problem at clinic/OPD		1		
	Growth not plotted correctly on RTHC		2		
	Inadequate assessment for HIV (IMCI not used) at clinic/OPD		3		
	Did not arrive at clinic/OPD on day of referral/did not keep appointment			1	
	Basic laboratory investigation not available (e.g. blood glucose)			2	
	No professional nurse at clinic/OPD			3	
Home					
	Caregiver did not recognise danger signs/severity of illness	1	1	1	
	Caregiver delayed seeking care	2	2		
	Inadequate transport from home to nearest health facility		3		
	Child not provided with adequate (quality and/or quantity) food at home			2	
	Caregiver did not take child to clinic for vaccines as scheduled			3	

DC8 ZF MGCWU

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	107.3	84.5	93.2	89.5
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	61.9	61.1	64.5	64.4
Measles 2 nd dose coverage	106.3	88.6	88.0	90.8
Vitamin A dose 12 - 59 months coverage	53.8	48.1	48.9	51.1
Infant PCR test positive around 10 weeks rate	-	2.4	2.0	1.1
N ^o of HIV +ve children on ART	1 354	5 416	4 640	4 792
% with viral load suppression at 12 months	48.3	63.2	14.3	22.2
% children screened at facilities for TB	-	54.3	80.9	90.3
Diarrhoea incidence	14.4	14.4	9.7	6.4
Diarrhoea case fatality under 5 years rate	4.5	4.9	3.4	3.5
Pneumonia incidence	27.3	25.9	22.4	29.2
Pneumonia case fatality under 5 years rate	0.2	3.8	-	0.5
SAM incidence	4.5	4.9	3.4	3.5
SAM case fatality under 5 year rate	4.5	4.7	3.0	0.7
Infant Mortality				
Registered deaths (StatsSA)	122	137		
Hospital deaths (DHIS)	56	41	47	71
Hospital deaths (Child PIP)	10	28	14	
IMR (StatsSA)	25.9	28.7		
IHMR (DHIS)	3.6	3.6	4.0	7.0
IHMR (Child PIP)	1.8	1.4	0.8	
% deaths in health service	38.5	83.2		
N ^o deaths in District Hospital	15	18	15	20
N ^o deaths in Regional Hospital	41	23	32	51
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	162	165		
Hospital deaths (DHIS)	67	48	52	76
Hospital deaths (Child PIP)	18	39	23	
U5MR (StatsSA)	34.4	34.6		
IHMR (DHIS)	2.4	2.7	2.5	3.8
IHMR (Child PIP)	1.4	1.1	0.6	
% deaths in health service	36.4	84		
N ^o deaths in District Hospital	21	19	17	22
N ^o deaths in Regional Hospital	46	29	35	54
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.6	17.9	8.5
Tuberculosis (A15-A19)		0.7	3.6	1.2
Other bacterial diseases (A30-A49)		1.5	0.0	1.2
HIV disease (B20-B24)		2.2	0.0	1.8
Other viral diseases (B25-B34)		1.5	0.0	1.2
Malnutrition (E40-E46)		5.1	14.3	6.7
Influenza and pneumonia (J09-J18)		11.7	3.6	10.3
Perinatal conditions 9P00-P96)		37.2	0.0	30.9
Congenital Disorders (Q00-Q99)		7.3	7.1	7.3
Ill defined/Miscellaneous conditions (R00-R99)		9.5	3.6	8.5
Non-natural (V01-Y98)		6.6	32.1	10.9
Other		10.2	17.9	11.5

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	4	5	5	
% children under-5 who died and had severe malnutrition	63.2	29.3	44.4	
% children under-5 who died and were HIV Infected or Exposed	31.6	24.4	18.5	
% Deaths within 24 hrs of admission to hospital	52.6	46.4	40.0	
Total MFR/death	5.6	5.9	2.3	
MFR - Clinical Personnel	3.2	3.8	0.8	
MFR - Administrator	0.5	0.6	0.4	
MFR - Caregiver	1.9	1.5	1.1	
% - Ward	34.9	31.1	26.2	
% - A&E	15.1	15.4	8.2	
% - Referring Facility & Transit	4.7	7.9	3.3	
% - Clinic/OPD	9.4	17.0	6.6	
% - Home	35.8	28.6	55.7	
Ward				
WHO '10 Steps' not followed for child with severe malnutrition	1			
Inadequate investigations in ward	2			
Insufficient notes on clinical care in ward (assess, manage, monitor)	3	3	2	
Inadequate response to new danger signs		1		
New danger signs inadequately identified while in ward		2		
Danger signs missed due to inadequate monitoring in ward			1	
Inadequate response to non-responding ARI/pneumonia			3	
A&E/OPD				
Insufficient professional nurses allocated to A&E	1			
No A&E staff trained in ETAT/BLS/APLS	2			
Lack of experienced doctors at A&E	3	2		
Inadequate emergency care plan in A&E		1		
Possible serious bacterial infection not considered at A&E		3		
Emergency signs not recognised at A&E			1	
Inadequate notes on clinical care at A&E			2	
Inadequate rehydration plan at A&E			3	
Referring facility				
No or delayed referral to higher level	1	1		
No plan for transporting caregiver to receiving facility	2			
Inadequate notes on transit care	3	2	1	
Severity of child's condition incorrectly assessed at referring facility		3		
Emergency or priority care not provided at referring hospital			2	
Clinic				
Inadequate IMCI implementation at clinic/OPD	1		1	
Inadequate response to growth faltering or failure, at clinic/OPD	2			
Caregiver did not bring RTHC and/or referral letter to clinic	3			
Danger signs missed at clinic/OPD		1		
IMCI not used for patient assessment at clinic/OPD		2		
Child's growth problem inadequately identified or classified		3		
Delayed referral for severe malnutrition, weight loss, growth faltering			2	
Delayed referral of child with danger signs, from clinic/OPD			3	
Home				
Child not provided with adequate (quality and/or quantity) food at home	1	3		
Caregiver did not recognise danger signs/severity of illness	2	2	2	
Caregiver delayed seeking care	3	1	3	

DC9 FRANCES BAARD

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	88.8	86.8	92.7	92.5
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	60.4	63.2	58.1	59.2
Measles 2 nd dose coverage	107.1	89.1	89.0	91.9
Vitamin A dose 12 - 59 months coverage	59.8	56.1	50.9	50.2
Infant PCR test positive around 10 weeks rate	-	1.30	0.44	0.77
N ^o of HIV +ve children on ART	3 430	13 720	13 024	13 472
% with viral load suppression at 12 months	71.4	72.0	63.0	41.7
% children screened at facilities for TB	-	27.8	48.9	59.9
Diarrhoea incidence	6.0	5.4	11.9	16.3
Diarrhoea case fatality under 5 years rate	2.5	1.8	3.0	0.2
Pneumonia incidence	24.1	24.1	42.9	46.3
Pneumonia case fatality under 5 years rate	1.7	1.4	2.7	1.8
SAM incidence	5.2	6.1	10.8	14.4
SAM case fatality under 5 year rate	5.6	6.0	4.6	4.8
Infant Mortality				
Registered deaths (StatsSA)	167	189		
Hospital deaths (DHIS)	162	151	178	228
Hospital deaths (Child PIP)	48	42	14	
IMR (StatsSA)	19.2	21.4		
IHMR (DHIS)	5.9	6.8	8.7	10.3
IHMR (Child PIP)	2.4	1.6	2.4	
% deaths in health service	37.7	64.6		
N ^o deaths in District Hospital	7	3	10	6
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	154	139	162	210
Under-5 Mortality				
Registered deaths (StatsSA)	210	253		
Hospital deaths (DHIS)	191	184	216	257
Hospital deaths (Child PIP)	81	97	22	
U5MR (StatsSA)	24	29		
IHMR (DHIS)	4.8	5.3	6.6	7.8
IHMR (Child PIP)	1.8	1.6	1.9	
% deaths in health service	37.1	60.5		
N ^o deaths in District Hospital	9	3	11	7
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	181	172	197	237
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.7	7.8	4.7
Tuberculosis (A15-A19)		0.5	9.4	2.8
Other bacterial diseases (A30-A49)		1.1	1.6	1.2
HIV disease (B20-B24)		1.1	4.7	2.0
Other viral diseases (B25-B34)		1.6	0.0	1.2
Malnutrition (E40-E46)		1.6	20.3	6.3
Influenza and pneumonia (J09-J18)		5.3	4.7	5.1
Perinatal conditions 9P00-P96)		42.3	0.0	31.6
Congenital Disorders (Q00-Q99)		8.5	9.4	8.7
Ill defined/Miscellaneous conditions (R00-R99)		16.9	6.3	14.2
Non-natural (V01-Y98)		2.6	18.8	6.7
Other		14.8	17.2	15.4

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	1	2	4	
	% children under-5 who died and had severe malnutrition	25.5	32.3	8.8	
	% children under-5 who died and were HIV Infected or Exposed	29.4	31.5	23.5	
	% Deaths within 24 hrs of admission to hospital	26.5	31.3	38.5	
	Total MFR/death	2.2	3.0	2.5	
	MFR - Clinical Personnel	0.7	1.1	1.4	
	MFR - Administrator	0.3	0.3	0.2	
	MFR - Caregiver	1.2	1.6	0.9	
	% - Ward	9.3	9.3	24.7	
	% - A&E	6.6	4.9	16.5	
	% - Referring Facility & Transit	12.4	17.2	12.9	
	% - Clinic/OPD	13.7	14.7	7.1	
	% - Home	58.0	54.0	38.8	
Ward					
	Inadequate response to new danger signs	1		3	
	Inadequate review of child with severe dehydration	2			
	Inadequate revision of fluid management plan, despite child's changing condition i	3			
	RTHC information not present in child's folder		1		
	Previous folder number and/or discharge letter not available		2		
	Lack of hospital beds and/or ward overcrowded		3		
	New danger signs inadequately identified while in ward			1	
	Inadequate investigations in ward			2	
A&E/OPD					
	Admission records incomplete or inappropriate	1			
	Appropriate antibiotics not prescribed at A&E	2			
	Not classified as critically ill despite presence of danger signs at A&E	3	3		
	Caregiver did not bring RTHC and/or referral letter to A&E		1		
	Lack of ward beds, delaying movement out of Emergency Room		2		
	Inadequate investigations (blood, x-ray, other) at A&E			1	
	Other clinical personnel modifiable factor at A&E (COMMENT)			2	
	No home/community IMCI in health subdistrict			3	
Referring facility					
	No or delayed referral to higher level	1		2	
	Delayed arrival of ambulance at referring facility	2	2	3	
	Inadequate monitoring and critical care equipment in referring facility	3			
	Severity of child's condition incorrectly assessed at referring facility		1	1	
	Emergency or priority care not provided at referring hospital		3		
Clinic					
	Caregiver did not bring RTHC and/or referral letter to clinic	1			
	Danger signs missed at clinic/OPD	2			
	Inadequate assesment for HIV (IMCI not used) at clinic/OPD	3			
	Insufficient assessment for chronic illness at clinic/OPD		1		
	Child's growth problem inadequately identified or classified		2		
	Inadequate response to growth faltering or failure, at clinic/OPD		3		
	No transport from home to clinic			1	
	Inadequate IMCI implementation at clinic/OPD			2	
	Did not arrive at clinic/OPD on day of referral/did not keep appointment			3	
Home					
	Caregiver did not recognise danger signs/severity of illness	1	1	1	
	Child not provided with adequate (quality and/or quantity) food at home	2	3	3	
	Caregiver delayed seeking care	3	2		
	Caregiver took child to clinic infrequently			2	

DC45 JT GAETSEWE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	97.0	87.9	89.6	103.8
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	42.0	38.5	39.8	43.0
Measles 2 nd dose coverage	112.1	92.0	86.2	99.6
Vitamin A dose 12 - 59 months coverage	55.3	53.6	51.5	52.2
Infant PCR test positive around 10 weeks rate	-	1.2	3.6	2.9
N ^o of HIV +ve children on ART	2 092	8 368	7 880	8 136
% with viral load suppression at 12 months	65.2	66.7	58.8	88.9
% children screened at facilities for TB	-	19.3	27.2	47.9
Diarrhoea incidence	7.9	5.8	5.8	8.6
Diarrhoea case fatality under 5 years rate	7.7	2.0	4.0	5.5
Pneumonia incidence	11.6	11.0	14.5	13.4
Pneumonia case fatality under 5 years rate	3.0	2.7	2.9	4.9
SAM incidence	4.9	3.7	5.9	6.7
SAM case fatality under 5 year rate	4.4	7.4	7.7	10.3
Infant Mortality				
Registered deaths (StatsSA)	243	179		
Hospital deaths (DHIS)	120	55	49	66
Hospital deaths (Child PIP)	-	-	-	
IMR (StatsSA)	45.8	33.4		
IHMR (DHIS)	14.8	10.0	9.4	12.5
IHMR (Child PIP)	-	-	-	
% deaths in health service	50.2	78.2		
N ^o deaths in District Hospital	120	55	49	66
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	317	226		
Hospital deaths (DHIS)	140	62	58	80
Hospital deaths (Child PIP)	-	-	-	
U5MR (StatsSA)	59.7	42.2		
IHMR (DHIS)	9.1	6.3	6.5	8.6
IHMR (Child PIP)	-	-	-	
% deaths in health service	47.3	79.2		
N ^o deaths in District Hospital	140	62	58	80
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		12.8	34.0	17.3
Tuberculosis (A15-A19)		0.0	2.1	0.4
Other bacterial diseases (A30-A49)		0.0	0.0	0.0
HIV disease (B20-B24)		0.6	0.0	0.4
Other viral diseases (B25-B34)		0.0	4.3	0.9
Malnutrition (E40-E46)		4.5	6.4	4.9
Influenza and pneumonia (J09-J18)		6.7	14.9	8.4
Perinatal conditions 9P00-P96)		45.8	0.0	36.3
Congenital Disorders (Q00-Q99)		2.8	2.1	2.7
Ill defined/Miscellaneous conditions (R00-R99)		16.8	10.6	15.5
Non-natural (V01-Y98)		1.1	8.5	2.7
Other		8.9	17.0	10.6

		2016	2017	2018	2019
Modifiable Factors					
	N° hospitals doing Child PIP	0	0	0	
	% children under-5 who died and had severe malnutrition	-	-	-	
	% children under-5 who died and were HIV Infected or Exposed	-	-	-	
	% Deaths within 24 hrs of admission to hospital	-	-	-	
	Total MFR/death	-	-	-	
	MFR - Clinical Personnel	-	-	-	
	MFR - Administrator	-	-	-	
	MFR - Caregiver	-	-	-	
	% - Ward	-	-	-	
	% - A&E	-	-	-	
	% - Referring Facility & Transit	-	-	-	
	% - Clinic/OPD	-	-	-	
	% - Home	-	-	-	
Modifiable Factors					
	No Child PIP data	-	-	-	

WESTERN CAPE

SOCIO-DEMOGRAPHIC PROFILE

Demographic Profile		Province	West Coast	Cape Winelands	Overberg
	Total population	6 610 920	470 157	9 333 476	299 198
	Population density (people/km ²)	51.1	15.1	43.5	24.4
	N ^o children < 5 years	566 934	42 784	821 346	24 235
	N ^o children < 15 years	1 700 177	121 301	2 436 037	71 508
	% of population < 5 years	8.6	9.1	8.8	8.1
	% of population < 15 years	25.7	25.8	26.1	23.9
	Annual births	97 298	4 792	13 870	3 986
Household profile					
	% female headed households		32.8	34.2	31.9
	% children who are orphans	6.8			
	% children < 5 years attending ECD centre	83.9			
	% children 7 - 17 years attending school	96.4			
	% population > 20 years with no schooling	2.4	3.9	2.6	3.3
	% population > 20 years with no matric	54.9	70.9	70.0	72.3
	% living in formal dwelling	82.4	85.8	81.0	81.8
	% households with piped water in dwelling	76.9	79.9	77.3	78.6
	% households using electricity for lighting	96.6	94.0	94.4	94.4
	% households with flush sanitation	90.6	92.3	95.9	95.5
	% households with weekly refuse removal	86.8	83.4	81.8	87.1
	Unemployment rate	21.6	14.6	14.1	17.0
	% children living in poverty	36.6			
	% children >30 mins from health facility	6.5			
Health services					
	N ^o Community Health Workers	3 542	293	388	261
	N ^o PHC clinics	192	25	40	17
	N ^o Community Health Centres	73	1	6	2
	N ^o District Hospitals	33	7	4	4
	N ^o Regional Hospitals	5	-	2	-
	N ^o Tertiary/Central Hospitals	3	-	-	-
	N ^o Other Hospitals	72	3	8	1
	% Ideal PHC clinics	68.3	40.7	60.0	100.0
	Medical aid coverage	20.1	17.3	16.4	16.4
Staffing (N ^o / 100,000 population)					
	Nursing Assistants	79.5	37.8	48.2	31.6
	Enrolled nurses	50.0	37.0	46.8	29.6
	Professional nurses	103.2	62.2	79.4	71.6
	Dental practitioners	1.5	7.0	2.0	2.4
	Medical practitioners	38.9	18.8	30.0	19.2
	Medical specialists	25.0	1.5	11.0	1.6
	Paediatrician	392			
	Pharmacists	18.9	12.1	13.7	16.4
	Occupational therapists	2.9	1.5	1.7	1.2
	Physiotherapists	3.0	2.3	1.9	1.2
Maternal Health					
	Antenatal 1 st visit coverage	84.1	69.0	74.4	97.1
	Antenatal 1 st visit before 20 weeks rate	70.3	73.5	74.2	80.1
	Delivery in 10 - 19 years in facility rate	11.1	16.2	12.6	14.7
	Mother postnatal visit within 6 days	57.9	65.9	54.0	75.1
	Maternal mortality ratio	66.8	67.2	79.4	49.3

Demographic Profile		Province	Garden Route	Central Karoo	City of Cape Town
	Total population	6 610 920	636 305	77 606	4 194 178
	Population density (people/km ²)	51.1	27.3	2.0	1 715.0
	N ^o children < 5 years	566 934	54 086	7 217	339 728
	N ^o children < 15 years	1 700 177	157 804	21 574	1 002 409
	% of population < 5 years	8.6	8.5	9.3	8.1
	% of population < 15 years	25.7	24.8	27.8	23.9
	Annual births	97 298	9 253	1 171	64 226
Household profile					
	% female headed households		36.1	40.8	40.0
	% children who are orphans	6.8			
	% children < 5 years attending ECD centre	83.9			
	% children 7 - 17 years attending school	96.4			
	% population > 20 years with no schooling	2.4	3.0	5.9	2.1
	% population > 20 years with no matric	54.9	66.1	70.5	66.0
	% living in formal dwelling	82.4	85.7	97.8	81.6
	% households with piped water in dwelling	76.9	75.8	73.8	76.7
	% households using electricity for lighting	96.6	95.9	95.4	97.6
	% households with flush sanitation	90.6	93.8	97.1	92.8
	% households with weekly refuse removal	86.8	88.8	90.8	87.8
	Unemployment rate	21.6	22.5	23.1	23.9
	% children living in poverty	36.6			
	% children >30 mins from health facility	6.5			
Health services					
	N ^o Community Health Workers	3 542	475	76	2 036
	N ^o PHC clinics	192	32	8	70
	N ^o Community Health Centres	73	7	1	56
	N ^o District Hospitals	33	6	4	8
	N ^o Regional Hospitals	5	1	-	2
	N ^o Tertiary/Central Hospitals	3	-	-	3
	N ^o Other Hospitals	72	10	-	50
	% Ideal PHC clinics	68.3	53.7	100.0	75.0
	Medical aid coverage	20.1	16.5	12.5	22.2
Staffing (N ^o / 100,000 population)					
	Nursing Assistants	79.5	52.2	81.0	100.0
	Enrolled nurses	50.0	46.3	48.6	54.6
	Professional nurses	103.2	94.3	125.2	115.7
	Dental practitioners	1.5	2.9	2.9	3.3
	Medical practitioners	38.9	35.0	26.5	45.5
	Medical specialists	25.0	9.6	No data	35.1
	Paediatrician	392			
	Pharmacists	18.9	21.3	28.0	17.8
	Occupational therapists	2.9	1.7	1.5	3.8
	Physiotherapists	3.0	2.3	1.5	3.6
Maternal Health					
	Antenatal 1 st visit coverage	84.1	78.4	80.5	88.6
	Antenatal 1 st visit before 20 weeks rate	70.3	78.8	73.3	67.1
	Delivery in 10 - 19 years in facility rate	11.1	14.6	17.7	9.6
	Mother postnatal visit within 6 days	57.9	55.0	66.9	57.7
	Maternal mortality ratio	66.8	48.6	188.0	65.6

CHILD HEALTH PROFILE - PROVINCIAL STATUS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	74.8	81.1	82.7	84.8
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	31.8	34.4	38.7	39.7
Measles 2 nd dose coverage	86.0	78.2	77.7	79.7
Vitamin A dose 12 - 59 months coverage	48.7	48.9	52.2	53.8
Infant PCR test positive around 10 weeks rate	-	0.79	0.48	0.30
N ^o of HIV +ve children on ART	22 714	90 856	87 760	87 960
% with viral load suppression at 12 months	71.5	73.4	71.9	68.2
% children screened at facilities for TB	-	59.0	71.5	87.0
Diarrhoea incidence	18.1	13.7	14.0	12.4
Diarrhoea case fatality under 5 years rate	0.3	0.4	0.1	0.2
Pneumonia incidence	99.1	86.8	84.1	80.7
Pneumonia case fatality under 5 years rate	0.4	0.7	0.2	0.2
SAM incidence	2.2	2.0	1.8	1.7
SAM case fatality under 5 year rate	0.6	2.2	1.6	1.5
Infant Mortality				
Registered deaths (StatsSA)	1 585	1 513		
Hospital deaths (DHIS)	983	1 076	1 100	1 066
Hospital deaths (Child PIP)	41	184	54	
IMR (StatsSA)	16.8	15.8		
IHMR (DHIS)	1.9	2.3	2.3	2.2
IHMR (Child PIP)	0.6	0.7	0.6	
% deaths in health service	49.3	51.9		
N ^o deaths in District Hospital	274	246	239	274
N ^o deaths in Regional Hospital	196	270	289	256
N ^o deaths in Tertiary/Central Hospital	492	547	553	519
Under-5 Mortality				
Registered deaths (StatsSA)	1 952	1 814		
Hospital deaths (DHIS)	1 082	1 196	1 207	1 166
Hospital deaths (Child PIP)	70	278	89	
U5MR (StatsSA)	20.7	18.9		
IHMR (DHIS)	1.3	1.5	1.4	1.5
IHMR (Child PIP)	0.5	0.5	0.4	
% deaths in health service	45.7	49.3		
N ^o deaths in District Hospital	288	261	249	293
N ^o deaths in Regional Hospital	215	281	306	269
N ^o deaths in Tertiary/Central Hospital	557	638	632	585
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		4.0	3.3	3.9
Tuberculosis (A15-A19)		0.5	3.3	0.9
Other bacterial diseases (A30-A49)		1.5	2.3	1.6
HIV disease (B20-B24)		0.4	2.0	0.7
Other viral diseases (B25-B34)		0.6	0.7	0.6
Malnutrition (E40-E46)		0.7	2.7	1.0
Influenza and pneumonia (J09-J18)		6.3	3.7	5.8
Perinatal conditions 9P00-P96)		45.9	0.3	38.4
Congenital Disorders (Q00-Q99)		12.2	7.6	11.5
Ill defined/Miscellaneous conditions (R00-R99)		16.9	16.6	16.9
Non-natural (V01-Y98)		1.6	29.2	6.2
Other		9.5	28.2	12.6

	2016	2017	2018	2019
Modifiable Factors				
N° hospitals doing Child PIP	33	38	39	
% children under-5 who died and had severe malnutrition	21.5	12.4	6.4	
% children under-5 who died and were HIV Infected or Exposed	11.8	16.1	7.2	
% Deaths within 24 hrs of admission to hospital	34.4	25.8	27.5	
Total MFR/death	1.5	0.8	0.9	
MFR - Clinical Personnel	0.7	0.3	0.6	
MFR - Administrator	0.4	0.1	0.1	
MFR - Caregiver	0.5	0.3	0.1	
% - Ward	24.5	28.8	29.7	
% - A&E	15.8	9.1	36.9	
% - Referring Facility & Transit	9.4	10.5	9.0	
% - Clinic/OPD	6.5	8.4	2.7	
% - Home	43.9	43.2	21.6	
Ward				
Danger signs missed due to inadequate monitoring in ward	1			
Lack of High Care and/or ICU facilities for children	2	1		
Lack of experienced doctors (post Community Service) for children's ward	3			
Inadequate response to new danger signs		2	1	
New danger signs inadequately identified while in ward		3	3	
Possible serious bacterial infection not considered in ward			2	
A&E/OPD				
Lack of experienced doctors at A&E	1			
Emergency signs not recognised at A&E	2	3	1	
Priority signs not recognised at A&E	3		2	
Inadequate physical examination at A&E		1		
Inadequate history taken at A&E		2		
Inadequate emergency care plan in A&E			3	
Referring facility				
Emergency or priority care not provided at referring hospital	1			
Severity of child's condition incorrectly assessed at referring facility	2	1	1	
Inadequate notes on transit care	3			
No or delayed referral to higher level		2	2	
Child not managed correctly in ambulance		3		
Child not re-assessed at time of departure from referring facility			3	
Clinic				
No emergency transport from clinic to hospital	1			
Inadequate response to danger signs at clinic/OPD	2	3		
Child with danger signs not monitored at clinic/OPD	3			
Danger signs missed at clinic/OPD		1		
Did not arrive at clinic/OPD on day of referral/did not keep appointment		2		
Other administrator modifiable factor at clinic/OPD			1	
Inadequate fluid management for diarrhoeal disease with dehydration			2	
Delayed referral for severe malnutrition, weight loss, growth faltering			3	
Home				
Caregiver delayed seeking care	1	2	1	
Caregiver did not recognise danger signs/severity of illness	2	1	2	
Child not provided with adequate (quality and/or quantity) food at home	3	3		
Inadequate transport from home to nearest health facility			3	

DC1 WEST COAST

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	70.3	63.3	69.5	63.7
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	27.4	31.4	32.7	32.8
Measles 2 nd dose coverage	86.8	63.1	64.4	64.0
Vitamin A dose 12 - 59 months coverage	42.2	45.2	47.0	47.6
Infant PCR test positive around 10 weeks rate	-	0.64	0.58	0.69
N ^o of HIV +ve children on ART	1 060	4 240	4 096	4 104
% with viral load suppression at 12 months	58.3	63.6	41.2	72.7
% children screened at facilities for TB	-	67.1	77.6	85.5
Diarrhoea incidence	18.2	17.9	16.1	12.4
Diarrhoea case fatality under 5 years rate	-	-	-	-
Pneumonia incidence	23.8	22.8	27.7	24.8
Pneumonia case fatality under 5 years rate	0.7	-	0.1	0.1
SAM incidence	1.6	1.7	2.1	1.7
SAM case fatality under 5 year rate	-	-	-	-
Infant Mortality				
Registered deaths (StatsSA)	71	90		
Hospital deaths (DHIS)	39	36	29	36
Hospital deaths (Child PIP)	7	2	1	
IMR (StatsSA)	13.3	16.3		
IHMR (DHIS)	1.3	1.5	1.1	1.3
IHMR (Child PIP)	0.2	0.3	0.1	
% deaths in health service	32.4	55.6		
N ^o deaths in District Hospital	39	36	29	36
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	99	112		
Hospital deaths (DHIS)	45	37	31	39
Hospital deaths (Child PIP)	13	3	4	
U5MR (StatsSA)	18.6	20.3		
IHMR (DHIS)	0.7	0.7	0.6	0.7
IHMR (Child PIP)	0.2	0.1	0.1	
% deaths in health service	27.3	48.2		
N ^o deaths in District Hospital	45	37	31	39
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		2.2	9.1	3.6
Tuberculosis (A15-A19)		0.0	0.0	0.0
Other bacterial diseases (A30-A49)		1.1	4.5	1.8
HIV disease (B20-B24)		0.0	0.0	0.0
Other viral diseases (B25-B34)		1.1	0.0	0.9
Malnutrition (E40-E46)		0.0	4.5	0.9
Influenza and pneumonia (J09-J18)		4.4	4.5	4.5
Perinatal conditions 9P00-P96)		46.7	0.0	37.5
Congenital Disorders (Q00-Q99)		8.9	4.5	8.0
Ill defined/Miscellaneous conditions (R00-R99)		12.2	9.1	11.6
Non-natural (V01-Y98)		1.1	54.5	11.6
Other		22.2	9.1	19.6

	2016/17	2017/18	2018/19	2019/20
Modifiable Factors				
N° hospitals doing Child PIP	7	7	7	
% children under-5 who died and had severe malnutrition	23.1	0.0	0.0	
% children under-5 who died and were HIV Infected or Exposed	7.7	0.0	0.0	
% Deaths within 24 hrs of admission to hospital	46.2	66.7	75.0	
Total MFR/death	4.1	2.7	5.8	
MFR - Clinical Personnel	2.0	2.0	4.0	
MFR - Administrator	1.3	0.7	0.5	
MFR - Caregiver	0.8	0.0	1.3	
% - Ward	26.4	62.5	47.8	
% - A&E	22.6	0.0	30.4	
% - Referring Facility & Transit	7.5	12.5	0.0	
% - Clinic/OPD	9.4	25.0	0.0	
% - Home	34.0	0.0	21.7	
Ward				
Danger signs missed due to inadequate monitoring in ward	1			
WHO '10 Steps' not followed for child with severe malnutrition	2			
Lack of High Care and/or ICU facilities for children	3			
Lack of experienced doctors (post Community Service), for children's ward		1		
New danger signs inadequately identified while in ward		2	3	
Inadequate review of child with severe dehydration		3	1	
Doctor at peripheral hospital did not call referral hospital			2	
A&E/OPD				
Inadequate history taken at A&E	1			
Inadequate treatment of shock in A&E	2			
Inadequate paediatric resuscitation area in casualty/OPD	3			
Inadequate notes on clinical care at A&E			1	
Not classified as critically ill despite presence of danger signs at A&E			2	
Emergency signs not recognised at A&E			3	
Referring facility				
Inadequate notes on transit care	1			
Severity of child's condition incorrectly assessed at referring facility	2	1	1	
Emergency or priority care not provided at referring hospital	3			
Clinic				
Inadequate response to danger signs at clinic/OPD	1			
Inadequate notes on clinical care (assess, classify, treat) at clinic	2			
Inadequate referral letter from clinic to hospital	3			
Delayed referral for child with severe dehydration from clinic/OPD		1		
Delay in referring other acute problem from clinic/OPD		2		
Home				
Inadequate transport from home to nearest health facility	1			
Caregiver did not recognise danger signs/severity of illness	2		1	
Caregiver delayed seeking care	3		2	
'Traditional remedy' with negative effect on child			3	

DC2 CAPE WINELANDS

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	65.1	73.2	77.9	75.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	42.2	30.7	34.5	34.5
Measles 2 nd dose coverage	82.1	69.6	70.9	69.7
Vitamin A dose 12 - 59 months coverage	49.2	54.8	55.2	55.0
Infant PCR test positive around 10 weeks rate	-	1.50	0.42	0.73
N ^o of HIV +ve children on ART	2 602	10 408	9 992	10 016
% with viral load suppression at 12 months	53.2	74.5	65.5	44.4
% children screened at facilities for TB	-	51.7	70.5	80.8
Diarrhoea incidence	28.3	21.6	32.5	25.4
Diarrhoea case fatality under 5 years rate	0.4	0.6	0.1	0.6
Pneumonia incidence	39.7	33.7	45.7	47.2
Pneumonia case fatality under 5 years rate	0.4	0.5	0.2	0.2
SAM incidence	3.6	4.8	4.5	3.3
SAM case fatality under 5 year rate	2.9	9.2	2.9	3.8
Infant Mortality				
Registered deaths (StatsSA)	185	183		
Hospital deaths (DHIS)	122	156	148	138
Hospital deaths (Child PIP)	11	14	4	
IMR (StatsSA)	14.4	14.0		
IHMR (DHIS)	1.9	2.4	2.0	1.9
IHMR (Child PIP)	0.5	0.7	0.3	
% deaths in health service	41.6	49.7		
N ^o deaths in District Hospital	53	49	48	39
N ^o deaths in Regional Hospital	69	107	98	97
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	230	217		
Hospital deaths (DHIS)	137	166	162	147
Hospital deaths (Child PIP)	17	17	7	
U5MR (StatsSA)	17.9	16.7		
IHMR (DHIS)	1.2	1.5	1.3	1.2
IHMR (Child PIP)	0.4	0.5	0.2	
% deaths in health service	41.7	49.8		
N ^o deaths in District Hospital	57	53	50	40
N ^o deaths in Regional Hospital	80	112	110	104
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		6.6	2.9	6.0
Tuberculosis (A15-A19)		1.1	8.8	2.3
Other bacterial diseases (A30-A49)		0.5	0.0	0.5
HIV disease (B20-B24)		0.5	5.9	1.4
Other viral diseases (B25-B34)		1.6	0.0	1.4
Malnutrition (E40-E46)		2.7	8.8	3.7
Influenza and pneumonia (J09-J18)		4.9	8.8	5.5
Perinatal conditions 9P00-P96)		37.7	0.0	31.8
Congenital Disorders (Q00-Q99)		12.6	2.9	11.1
Ill defined/Miscellaneous conditions (R00-R99)		20.8	5.9	18.4
Non-natural (V01-Y98)		1.6	35.3	6.9
Other		9.3	20.6	11.1

		2016/17	2017/18	2018/19	2019/20
Modifiable Factors					
	N° hospitals doing Child PIP	4	4	4	
	% children under-5 who died and had severe malnutrition	42.1	57.1	10.0	
	% children under-5 who died and were HIV Infected or Exposed	21.1	19.0	10.0	
	% Deaths within 24 hrs of admission to hospital	42.1	52.4	55.6	
	Total MFR/death	1.9	2.0	1.9	
	MFR - Clinical Personnel	0.5	0.4	1.1	
	MFR - Administrator	0.7	0.7	0.5	
	MFR - Caregiver	0.7	1.0	0.3	
	% - Ward	18.9	41.9	0.0	
	% - A&E	16.2	0.0	36.8	
	% - Referring Facility & Transit	8.1	2.3	26.3	
	% - Clinic/OPD	2.7	2.3	5.3	
	% - Home	54.1	53.5	31.6	
Ward					
	Lack of High Care and/or ICU facilities for children	1	1		
	Lack of experienced doctors (post Community Service), for children's ward	2	2		
	Danger signs missed due to inadequate monitoring in ward	3			
	Inadequate monitoring of respiratory rate and/or oxygen saturation		3		
A&E/OPD					
	Inadequate ambulance service from health facility to receiving hospital	1			
	Child not managed correctly in ambulance	2			
	No or delayed referral to higher level	3			
	Severity of child's condition incorrectly assessed at referring facility		1	1	
	No or delayed referral to higher level			2	
	Child not re-assessed at time of departure from referring facility			3	
Referring facility					
	Inadequate ambulance service from health facility to receiving hospital	1			
	Child not managed correctly in ambulance	2			
	No or delayed referral to higher level	3		2	
	Severity of child's condition incorrectly assessed at referring facility		1	1	
	Child not re-assessed at time of departure from referring facility			3	
Clinic					
	Child's growth problem inadequately identified or classified	1			
	Inadequate response to danger signs at clinic/OPD		1		
	Delayed referral for severe malnutrition, weight loss, growth faltering			1	
	Inadequate transport from home to nearest health facility			2	
Home					
	Caregiver delayed seeking care	1	3	1	
	Caregiver did not recognise danger signs/severity of illness	2	2		
	Child not provided with adequate (quality and/or quantity) food at home	3	1		
	Primary caregiver unemployed, or no household breadwinner			2	

DC3 OVERBERG

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	71.7	74.7	79.2	83.8
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	45.3	43.7	46.0	47.4
Measles 2 nd dose coverage	91.4	79.3	78.1	79.5
Vitamin A dose 12 - 59 months coverage	52.5	58.4	59.7	66.9
Infant PCR test positive around 10 weeks rate	-	0.00	0.33	0.83
N ^o of HIV +ve children on ART	676	2 704	2 968	2 976
% with viral load suppression at 12 months	61.9	91.3	81.3	85.7
% children screened at facilities for TB	-	55.2	69.6	76.5
Diarrhoea incidence	14.4	14.0	8.2	9.0
Diarrhoea case fatality under 5 years rate	-	0.8	-	0.8
Pneumonia incidence	121.7	74.3	73.5	61.9
Pneumonia case fatality under 5 years rate	-	0.4	-	0.5
SAM incidence	1.6	1.4	1.5	2.3
SAM case fatality under 5 year rate	-	-	-	-
Infant Mortality				
Registered deaths (StatsSA)	69	51		
Hospital deaths (DHIS)	25	14	31	32
Hospital deaths (Child PIP)	1	2	1	
IMR (StatsSA)	18.7	13.7		
IHMR (DHIS)	2.2	1.2	2.1	2.0
IHMR (Child PIP)	0.8	0.4	1.1	
% deaths in health service	42.0	45.1		
N ^o deaths in District Hospital	25	14	31	32
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	92	64		
Hospital deaths (DHIS)	25	15	31	36
Hospital deaths (Child PIP)	4	2	2	
U5MR (StatsSA)	24.9	17.1		
IHMR (DHIS)	1.0	0.6	1.0	1.2
IHMR (Child PIP)	0.4	0.1	0.7	
% deaths in health service	38.0	43.8		
N ^o deaths in District Hospital	25	15	31	36
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.9	7.7	4.7
Tuberculosis (A15-A19)		0.0	0.0	0.0
Other bacterial diseases (A30-A49)		0.0	0.0	0.0
HIV disease (B20-B24)		0.0	0.0	0.0
Other viral diseases (B25-B34)		0.0	0.0	0.0
Malnutrition (E40-E46)		5.9	0.0	4.7
Influenza and pneumonia (J09-J18)		27.5	7.7	23.4
Perinatal conditions 9P00-P96)		43.1	0.0	34.4
Congenital Disorders (Q00-Q99)		7.8	7.7	7.8
Ill defined/Miscellaneous conditions (R00-R99)		7.8	23.1	10.9
Non-natural (V01-Y98)		2.0	15.4	4.7
Other		2.0	38.5	9.4

		2016/17	2017/18	2018/19	2019/20
Modifiable Factors					
	N° hospitals doing Child PIP	4	4	4	
	% children under-5 who died and had severe malnutrition	0.0	50.0	0.0	
	% children under-5 who died and were HIV Infected or Exposed	0.0	0.0	50.0	
	% Deaths within 24 hrs of admission to hospital	100.0	0.0	50.0	
	Total MFR/death	1.8	0.5	2.0	
	MFR - Clinical Personnel	1.3	0.0	2.0	
	MFR - Administrator	0.3	0.0	0.0	
	MFR - Caregiver	0.3	0.5	0.0	
	% - Ward	71.4	0.0	0.0	
	% - A&E	0.0	0.0	100.0	
	% - Referring Facility & Transit	0.0	0.0	0.0	
	% - Clinic/OPD	0.0	0.0	0.0	
	% - Home	28.6	100.0	0.0	
Ward					
	Inadequate revision of fluid management plan, despite changing condition	1			
	Inadequate monitoring of respiratory rate and/or oxygen saturation	2			
	Inadequate monitoring of blood glucose in ward	3			
A&E/OPD					
	Inadequate rehydration plan at A&E			1	
	Emergency signs not recognised at A&E			2	
	Inadequate assessment of dehydration at A&E			3	
Referring facility					
	None				
Clinic					
	None				
Home					
	Inadequate transport from home to nearest health facility	1			
	Caregiver did not recognise danger signs/severity of illness	2			
	Caregiver did not recognise danger signs/severity of illness		1		

DC4 GARDEN ROUTE

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	76.4	74.8	79.3	80.9
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	27.3	42.3	47.0	49.6
Measles 2 nd dose coverage	79.9	75.0	77.0	80.1
Vitamin A dose 12 - 59 months coverage	64.2	65.4	66.6	65.4
Infant PCR test positive around 10 weeks rate	-	1.80	0.95	0.41
N ^o of HIV +ve children on ART	2 096	8 384	7 600	7 616
% with viral load suppression at 12 months	73.2	78.0	66.7	76.9
% children screened at facilities for TB	-	45.5	58.2	71.1
Diarrhoea incidence	4.8	4.2	3.9	3.7
Diarrhoea case fatality under 5 years rate	0.2	0.4	0.3	0.1
Pneumonia incidence	31.4	28.9	34.1	27.0
Pneumonia case fatality under 5 years rate	-	1.4	0.3	0.1
SAM incidence	3.2	2.7	1.5	1.9
SAM case fatality under 5 year rate	0.6	-	6.1	-
Infant Mortality				
Registered deaths (StatsSA)	137	142		
Hospital deaths (DHIS)	91	109	96	92
Hospital deaths (Child PIP)	6	11	21	
IMR (StatsSA)	15.9	16.2		
IHMR (DHIS)	2.0	2.3	1.9	1.9
IHMR (Child PIP)	0.2	0.3	0.3	
% deaths in health service	50.4	46.5		
N ^o deaths in District Hospital	44	47	27	45
N ^o deaths in Regional Hospital	47	62	69	47
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	153	173		
Hospital deaths (DHIS)	100	116	103	101
Hospital deaths (Child PIP)	7	19	32	
U5MR (StatsSA)	17.7	19.7		
IHMR (DHIS)	1.1	1.2	1.1	1.1
IHMR (Child PIP)	0.4	0.5	0.6	
% deaths in health service	48.4	46.2		
N ^o deaths in District Hospital	46	49	29	48
N ^o deaths in Regional Hospital	54	67	74	53
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.5	6.5	4.0
Tuberculosis (A15-A19)		0.7	0.0	0.6
Other bacterial diseases (A30-A49)		0.0	3.2	0.6
HIV disease (B20-B24)		0.0	6.5	1.2
Other viral diseases (B25-B34)		1.4	0.0	1.2
Malnutrition (E40-E46)		0.0	3.2	0.6
Influenza and pneumonia (J09-J18)		27.5	9.7	24.3
Perinatal conditions 9P00-P96)		43.0	0.0	35.3
Congenital Disorders (Q00-Q99)		12.7	9.7	12.1
Ill defined/Miscellaneous conditions (R00-R99)		2.8	3.2	2.9
Non-natural (V01-Y98)		1.4	38.7	8.1
Other		7.0	19.4	9.2

		2016/17	2017/18	2018/19	2019/20
Modifiable Factors					
	N° hospitals doing Child PIP	6	7	7	
	% children under-5 who died and had severe malnutrition	0.0	0.0	10.5	
	% children under-5 who died and were HIV Infected or Exposed	12.5	8.3	2.6	
	% Deaths within 24 hrs of admission to hospital	25.0	4.2	7.9	
	Total MFR/death	0.4	0.7	0.1	
	MFR - Clinical Personnel	0.0	0.4	0.1	
	MFR - Administrator	0.3	0.0	0.0	
	MFR - Caregiver	0.1	0.3	0.0	
	% - Ward	0.0	6.3	25.0	
	% - A&E	0.0	37.5	0.0	
	% - Referring Facility & Transit	0.0	18.8	25.0	
	% - Clinic/OPD	0.0	0.0	0.0	
	% - Home	100.0	37.5	50.0	
Ward					
	Inadequate response to new danger signs		1		
	NGT feedings not prescribed when indicated in ward			1	
A&E/OPD					
	Inadequate treatment of shock in A&E (fluid type, amount, rate)		1		
	Inadequate physical examination at A&E		2		
	Emergency signs not recognised at A&E		3		
Referring facility					
	Child not managed correctly in ambulance		1		
	Inadequate notes on transit care			1	
Clinic					
	None	1			
Home					
	Other administrator modifiable factor at home	1			
	Inappropriate treatment given at home with negative effect on the child	2	3		
	Caregiver did not take child to clinic for vaccines as scheduled		1		
	Caregiver took child to clinic infrequently		2		
	Caregiver delayed seeking care			1	
	Insufficient notes on home circumstances or child's health history			2	

DC5 CENTRAL KAROO

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	67.6	78.8	76.2	80.3
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	50.1	67.0	61.9	52.9
Measles 2 nd dose coverage	80.6	76.6	68.9	72.7
Vitamin A dose 12 - 59 months coverage	48.2	67.3	66.2	65.3
Infant PCR test positive around 10 weeks rate	-	1.4	0.0	0.0
N ^o of HIV +ve children on ART	100	400	520	520
% with viral load suppression at 12 months	60.0	62.5	75.0	25.0
% children screened at facilities for TB	-	55.4	71.6	77.7
Diarrhoea incidence	10.4	8.0	17.2	11.3
Diarrhoea case fatality under 5 years rate	-	0.6	-	-
Pneumonia incidence	104.2	87.8	40.4	58.4
Pneumonia case fatality under 5 years rate	-	2.8	0.4	1.3
SAM incidence	9.0	5.6	3.8	3.3
SAM case fatality under 5 year rate	-	-	-	7.1
Infant Mortality				
Registered deaths (StatsSA)	22	31		
Hospital deaths (DHIS)	15	20	15	12
Hospital deaths (Child PIP)	3	3	-	
IMR (StatsSA)	19.1	26.6		
IHMR (DHIS)	2.7	3.3	2.3	2.1
IHMR (Child PIP)	0.2	1.3	0.2	
% deaths in health service	27.3	71.0		
N ^o deaths in District Hospital	15	20	15	12
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Under-5 Mortality				
Registered deaths (StatsSA)	28	35		
Hospital deaths (DHIS)	16	21	17	14
Hospital deaths (Child PIP)	4	5	1	
U5MR (StatsSA)	24.3	30.1		
IHMR (DHIS)	1.2	1.5	1.2	1.2
IHMR (Child PIP)	0.9	1.4	0.1	
% deaths in health service	28.6	68.6		
N ^o deaths in District Hospital	16	21	17	14
N ^o deaths in Regional Hospital	-	-	-	-
N ^o deaths in Tertiary/Central Hospital	-	-	-	-
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		0.0	0.0	0.0
Tuberculosis (A15-A19)		0.0	25.0	2.9
Other bacterial diseases (A30-A49)		3.2	0.0	2.9
HIV disease (B20-B24)		0.0	0.0	0.0
Other viral diseases (B25-B34)		0.0	0.0	0.0
Malnutrition (E40-E46)		0.0	0.0	0.0
Influenza and pneumonia (J09-J18)		9.7	0.0	8.6
Perinatal conditions 9P00-P96)		61.3	0.0	54.3
Congenital Disorders (Q00-Q99)		6.5	0.0	5.7
Ill defined/Miscellaneous conditions (R00-R99)		12.9	0.0	11.4
Non-natural (V01-Y98)		0.0	50.0	5.7
Other		6.5	25.0	8.6

		2016/17	2017/18	2018/19	2019/20
Modifiable Factors					
	N° hospitals doing Child PIP	4	4	4	
	% children under-5 who died and had severe malnutrition	0.0	16.7	0.0	
	% children under-5 who died and were HIV Infected or Exposed	0.0	16.7	100.0	
	% Deaths within 24 hrs of admission to hospital	25.0	60.0	0.0	
	Total MFR/death	0.3	0.7	0.0	
	MFR - Clinical Personnel	0.3	0.0		
	MFR - Administrator	0.0	0.3		
	MFR - Caregiver	0.0	0.3		
	% - Ward	100.0	0.0		
	% - A&E	0.0	0.0		
	% - Referring Facility & Transit	0.0	50.0		
	% - Clinic/OPD	0.0	0.0		
	% - Home	0.0	50.0		
Ward					
	Inadequate assessment of fitting and/or comatose child in ward	1			
A&E/OPD					
	None	1			
Referring facility					
	Delayed arrival of ambulance at referring facility		1		
	No ambulance available for transfer from referring to receiving hospital		2		
Clinic					
	None	1			
Home					
	Caregiver delayed seeking care		1		
	Caregiver did not recognise danger signs/severity of illness		2		

CITY OF CAPE TOWN

	2016/17	2017/18	2018/19	2019/20
Child Health				
Immunisation under 1 year coverage	77.8	86.8	86.7	91.0
Exclusively breastfed at DTaP-IPV-Hib-HBV 3 rd dose	30.2	33.4	38.1	39.4
Measles 2 nd dose coverage	87.6	82.6	81.4	84.6
Vitamin A dose 12 - 59 months coverage	46.7	44.3	48.9	51.3
Infant PCR test positive around 10 weeks rate	-	0.65	0.45	0.17
N ^o of HIV +ve children on ART	16 180	64 720	62 584	62 728
% with viral load suppression at 12 months	53.2	74.5	65.5	44.4
% children screened at facilities for TB	-	31.4	53.3	67.3
Diarrhoea incidence	18.2	12.9	11.2	11.0
Diarrhoea case fatality under 5 years rate	0.3	0.3	0.2	0.2
Pneumonia incidence	131.1	117.3	110.0	106.7
Pneumonia case fatality under 5 years rate	0.5	0.6	0.3	0.2
SAM incidence	1.7	1.2	1.1	1.2
SAM case fatality under 5 year rate	-	0.4	0.4	0.4
Infant Mortality				
Registered deaths (StatsSA)	1 097	1 016		
Hospital deaths (DHIS)	691	741	781	756
Hospital deaths (Child PIP)	13	153	27	
IMR (StatsSA)	17.5	15.9		
IHMR (DHIS)	1.9	2.3	2.5	2.4
IHMR (Child PIP)	0.8	0.9	0.7	
% deaths in health service	52.4	52.6		
N ^o deaths in District Hospital	98	80	89	110
N ^o deaths in Regional Hospital	80	101	122	112
N ^o deaths in Tertiary/Central Hospital	492	547	553	519
Under-5 Mortality				
Registered deaths (StatsSA)	1 345	1 213		
Hospital deaths (DHIS)	759	841	863	829
Hospital deaths (Child PIP)	25	232	43	
U5MR (StatsSA)	21.4	19.0		
IHMR (DHIS)	1.4	1.6	1.7	1.7
IHMR (Child PIP)	0.6	0.6	0.5	
% deaths in health service	48.3	49.5		
N ^o deaths in District Hospital	99	86	91	116
N ^o deaths in Regional Hospital	81	102	122	112
N ^o deaths in Tertiary/Central Hospital	557	638	632	585
Cause of Death - 2017				
		Under 1	1-4 years	Under 5
Intestinal Infections (A00 - A09)		3.8	2.0	3.5
Tuberculosis (A15-A19)		0.4	3.0	0.8
Other bacterial diseases (A30-A49)		1.9	2.5	2.0
HIV disease (B20-B24)		0.5	1.0	0.6
Other viral diseases (B25-B34)		0.3	1.0	0.4
Malnutrition (E40-E46)		0.2	1.5	0.4
Influenza and pneumonia (J09-J18)		2.6	1.5	2.4
Perinatal conditions 9P00-P96)		47.4	0.5	39.8
Congenital Disorders (Q00-Q99)		12.8	8.6	12.1
Ill defined/Miscellaneous conditions (R00-R99)		19.2	21.3	19.5
Non-natural (V01-Y98)		1.7	24.4	5.4
Other		9.3	32.5	13.0

Modifiable Factors		2016/17	2017/18	2018/19	2019/20
	N° hospitals doing Child PIP	6	11	11	
	% children under-5 who died and had severe malnutrition	20.0	10.1	4.3	
	% children under-5 who died and were HIV Infected or Exposed	11.1	16.8	7.1	
	% Deaths within 24 hrs of admission to hospital	24.4	24.8	31.8	
	Total MFR/death	0.8	0.7	0.9	
	MFR - Clinical Personnel	0.4	0.3	0.6	
	MFR - Administrator	0.0	0.1	0.1	
	MFR - Caregiver	0.4	0.3	0.1	
	% - Ward	18.4	27.2	34.4	
	% - A&E	10.5	9.4	37.7	
	% - Referring Facility & Transit	15.8	10.8	6.6	
	% - Clinic/OPD	7.9	9.9	3.3	
	% - Home	47.4	42.7	18.0	
Ward					
	Danger signs missed due to inadequate monitoring in ward	1			
	Inadequate oxygen delivery equipment in ward	2			
	Possible serious bacterial infection not considered in ward	3		3	
	Inadequate response to new danger signs		1	1	
	New danger signs inadequately identified while in ward		2		
	Lack of High Care and/or ICU facilities for children		3		
	Insufficient notes on clinical care in ward (assess, manage, monitor)			2	
A&E/OPD					
	Appropriate antibiotics not prescribed at A&E	1			
	Possible serious bacterial infection not considered at A&E	2			
	Other clinical personnel modifiable factor at A&E	3		1	
	Inadequate physical examination at A&E		1		
	Inadequate history taken at A&E		2		
	Inadequate assessment of shock at A&E		3		
	Inadequate problem list compiled at A&E			2	
	Inadequate emergency care plan in A&E			3	
Referring facility					
	Emergency or priority care not provided at referring hospital	1			
	Severity of child's condition incorrectly assessed at referring facility	2			
	Child not re-assessed at time of departure from referring facility	3			
	No or delayed referral to higher level		1	2	
	Severity of child's condition incorrectly assessed at referring facility		2	1	
	Inappropriate care or late referral from private sector/GP		3		
	Other administrator modifiable factor in transit care			3	
Clinic					
	Delayed referral for severe malnutrition, weight loss, growth faltering	1			
	Inadequate assesment for HIV (IMCI not used) at clinic/OPD	2			
	Missed vaccines despite clinic/OPD attendance	3			
	Danger signs missed at clinic/OPD		1		
	Did not arrive at clinic/OPD on day of referral/did not keep appointment		2		
	Inadequate response to growth faltering or failure, at clinic/OPD		3		
	Inadequate fluid management for diarrhoeal disease with dehydration			1	
	Other administrator modifiable factor at clinic/OPD			2	
Home					
	Caregiver delayed seeking care	1	2	2	
	Child not provided with adequate (quality and/or quantity) food at home	2			
	Caregiver took child to clinic infrequently	3			
	Caregiver did not recognise danger signs/severity of illness		1	1	
	Caregiver did not take child to clinic for vaccines as scheduled		3		
	No adult supervision at home			3	

APPENDIX 3: COMMITTEE MEMBERS

Chairman:

Prof N McKerrow	2008 – 2020	Provincial Specialist: Paediatrics & Child Health, Department of Health, KwaZulu-Natal.
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Deputy Chair:

Dr N Makubalo	2017 – 2018	DCST Paediatrician, Nelson Mandela Bay Metro, Eastern Cape.
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Members:

Prof B Gaede	2011 – 2020	Director, Centre for Rural Health, University of KwaZulu-Natal
Dr J Mareverwa	2017 – 2020	DCST Paediatrician, DR RS Mompoti District, North West Province.
Ms M Mashishi	2014 - 2020	DCST Paediatric Nurse, Waterberg District, Limpopo.
Ms V Mfolo	2017 – 2020	DCST PHC Nurse, Tshwane District, Gauteng.
Prof M Mulaudzi	2018 - 2020	Head Clinical Department: Paediatrics, Charlotte Maxeke Academic Hospital, Gauteng.
Dr J Murray	2020	Head Clinical Unit: Paediatrics, Paarl Hospital, Western Cape.
Dr J Nash	2014 – 2020	DCST Family Physician, Amathole District, Eastern Cape.
Dr C Naudè	2014- 2020	Senior Researcher, Centre for Evidence Based Health Care, Faculty of Medicine, University of Stellenbosch.
Prof D Power	2018 – 2019	Retired Paediatrician, Western Cape.
Prof H Saloojee	2009 – 2018	Head: Division of Community Paediatrics, Department of Paediatrics & Child Health, University of Witwatersrand.
Dr B Spies	2014 – 2020	DCST Paediatrician, Ehlanzeni District, Mpumalanga.
Dr E Tabane	2019 - 2020	Provincial Paediatrician, Free State.
Ms C Whittaker	2017 - 2018	DCST Paediatric Nurse, Pixley ka Seme District, Northern Cape
Ms C Witten	2014 - 2018	Nutrition Specialist, Senior Lecturer, North West University

Logistics & support:

Prof L Bamford	2008 – 2018	Senior Specialist, Child & Youth Health Directorate, NDOH.
Ms S Ngake	2011 – 2018	Child & Youth Health Directorate, NDOH.
Ms E Maseti	2011 – 2018	Child & Youth Health Directorate, NDOH.
Ms N Mazibuko	2018 – 2020	Child & Youth Health Directorate, NDOH.
Ms K Moodley	2008 – 2020	Personal Assistant, Prof N McKerrow – Committee Chairperson.
Ms N Ngobese	2020	Office Manager, Prof N McKerrow – Committee Chairperson.
Mr S Mndiso	2011 - 2018	Secretary, Child & Youth Health Directorate, NDOH.