

Government of the Republic of Zambia



Ministry of Health

**MID-TERM REVIEW OF THE NATIONAL HEALTH
STRATEGIC PLAN 2017 – 2021**

MAIN REPORT

July 2020

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Acknowledgments

Executive Summary

The National Health Strategic Plan (NHSP) 2017-2021 is in line with the National Health Policy, the country's 7th National Development Plan (7NDP) and the National Vision 2030. The NHSP was developed with an overall mission “to provide equitable access to cost effective, quality health services as close to the family as possible.” This is in line with the country's long-term national development agenda which has outlined the need for prioritizing health as a key ingredient to economic development.

The country aspires to significantly reduce the burden of disease and improve life expectancy for all its citizens, and the NHSP has a simple logical framework that focused on specific target investments across the health systems building blocks to achieve a range of health service delivery outputs and outcome.

Several key indicators were identified as priority indicators for monitoring the implementation and achievements of the NHSP. The table below outlines some of these indicators and their current achievements against the NHSP mid-term targets.

Table 1: Summary of the Performance of Key NHSP Indicators against Targets

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Life expectancy and Mortality				
Life expectancy at birth (years)	Males: 49.2 (2010 Census) Females: 53.7 (2010 census)	52.2 56.8	Males: 60.2 (WHO estimates 2018) Females: 64.4 (WHO estimates 2018)	Life expectancy at birth has increased significantly for both males and females.
Under-5 mortality per 1000 live births	75 (ZDHS 2013/14)	59	61 (ZDHS 2018)	Good progress, still below target.
Neonatal mortality per 1000 live births	24 (ZDHS 2013/14)	18	27 (ZDHS 2018)	Neonatal mortality has increased.
Infant mortality per 1000 live births	45 (ZDHS 2013/14)	30	42 (ZDHS 2018)	Modest decline in infant mortality.
Maternal mortality ratio per 100,000 live births	398 (2013/14 ZDHS)	250	278 (2018 ZDHS)	Good progress. However, it's still above target.
Adult mortality 15-49 years (per 1000 population)	8.4 (ZDHS 2013/14)	8.1	4.4 (ZDHS 2018, women only)	Major decline.
Morbidity				
Morbidity burden contributed by the top 10 causes of ill-health (%)	N/A	N/A		Indicator had no baseline or targets set.
RMNCAH				
Reproductive health				
Fertility rate (per 1000 women)	152 (2014)	132	134 (ZDHS 2018 preliminary)	Fertility rate declined by 18 per 1000, nearly reaching the target.
Fertility rate among adolescents (per 1000 girls)	141 (2014)	121	135 (ZDHS 2018 preliminary)	Fertility rate among adolescents declined slightly, and not quite halfway to the target.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Women in sexual union with family planning (FP) need satisfied with modern methods (%)	63.8 (ZDHS 2013/14)	76	68.5 (ZDHS 2018 preliminary)	5 percentage point increase - steady progress.
Contraceptive prevalence rate (% modern methods)	32.5 (ZDHS 2013/14)	56	47.5 (ZDHS 2018 preliminary)	Target was for all women while achievement is among married women only (value for all not available in preliminary 2018 report).
Contraceptive prevalence among adolescents (% modern methods)	10.2 (ZDHS 2013/14)	38	37.8 (ZDHS 2018 preliminary)	Target is for all adolescents; achievement is among adolescents who were married.
Percentage of clients accessing Long Acting Reversible Contraceptives	4 (2016, HMIS HIA 2)	N/A	4.5 (HMIS, HIA 2)	Indicator not available in the NHSP and M&E framework.
Couple Years of Protection Rate (CYP)	33.3 (2016, HMIS HIA 2; 2018 CSO Pop. Proj.)	N/A	35.6 (2018, HMIS HIA 2; 2018 CSO Pop. Proj.)	Indicator not available in the NHSP and M&E framework.
Maternal and Newborn Care				
<i>Pregnancy outcomes</i>				
Maternal Mortality Ratio (per 100,000 live births)	398 2014 (ZDHS 2013/14)	250	278 2018 (ZDHS 2018)	Maternal mortality has declined and is likely to have reached the target.
Low Birth Weight (% of live births)	9.7 (HMIS, 2016)	7.8	11.4 (HMIS 2018)	Low birth weight has increased in health facility births.
<i>Antenatal care</i>				
First ANC Coverage (Total 1 st Antenatal visits) (%)	95.7 NHSP indicates 96% maybe it was rounded off but let's standardize (2013/14 ZDHS)	97	97% (ZDHS 2018), near 100% (HMIS 2018)	
1 st Antenatal Visit before 14 weeks (%)	24.4 (2013/14 ZDHS) 12% (HMIS 2016)	45	22% (HMIS 2018)	An increase during 2016-2018, but well short of target.
4+ Antenatal visits before delivery (%)	55.5 (2013/14 ZDHS) 42% (HMIS 2016)	65	63.5 (ZDHS 2018); 52% (HMIS 2018)	Inconsistencies between HMIS and ZDHS but increase in both.
Syphilis screening coverage of 1 st ANC clients (%)	44 (HMIS 2013)		56.3 (HMIS 2018)	Increase of about 12 percentage points.
Anemia screening coverage of 1 st ANC clients (%)	85.2 (HMIS 2013)		89.5 (HMIS 2018)	Increase of 4 percentage points. No target set.
<i>Delivery and postnatal care</i>				
Percentage of institutional deliveries (%)	67.4 (ZDHS 2013/2014)	N/A	83.8 (2018 ZDHS)	Increase of 23%. No target set in the M and E plan.
Percentage of skilled deliveries (%)	64.2 2013/14 ZDHS	79	80.4 (2018 ZDHS)	Target has been achieved and surpassed by 1 percentage point.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Caesarean section rate (%)	5.0 (2015 HMIS)	7.0	7.3 (2018 HMIS)	Target has been achieved and surpassed by 2.3 percentage points.
Postnatal care visit within 48 hours after delivery (%)	63.4 (2013/14 ZDHS)	74	69.7 (2018 ZDHS)	
Child Health and Nutrition				
<i>Nutritional status and treatment of childhood illnesses</i>				
Percentage of children underweight	15 (2013/14 ZDHS)	9.8	12 (2018 ZDHS Preliminary findings)	Some progress made.
Percentage of children stunted	40 (2013/14 ZDHS)	29.6	35 (2018 ZDHS Preliminary findings)	Some progress made.
Percentage of children wasted	6 (2013/14 ZDHS)	4	4 (2018 ZDHS Preliminary findings)	Target achieved.
Percentage of children with minimum acceptable diet	11 (2013/14 ZDHS)	N/A	12 (2018 ZDHS Preliminary findings)	Minimum acceptable diet rather than minimum dietary diversity was used to allow comparison.
Exclusive breastfeeding 0-6 months	72.5 (2013/14 ZDHS)	75.8	69.9 (2018 ZDHS Preliminary findings)	Target not met. Slight decline in exclusive breastfeeding.
Breastfeeding initiated within 1 hour of birth (%)	65.8 (2013/14 ZDHS) 87 (HMIS 2016)	79	83 (2018 HMIS)	Target may have been reached according to preliminary value for 2018.
Percentage of children with diarrhea receiving Oral Rehydration Solution (ORS) and Zinc supplements (%)	64.1 (2013/14 ZDHS)	79	66.8 (2018 ZDHS Preliminary findings)	Zinc was not offered previously, thus ratios compared were for ORS only.
Percentage of caregivers with appropriate care-seeking for symptoms of pneumonia (%)	71.9 (2013/14 ZDHS)	82	74.5 (2018 ZDHS Preliminary findings)	
<i>Immunization of children</i>				
BCG coverage	94.9 (2013/14 ZDHS)	90	97.5 (2018 ZDHS preliminary findings)	Target achieved.
BCG to Measles 1 dose dropout rate (new)	10.5 (2013/14 ZDHS)	N/A	6.8 (2018 ZDHS preliminary findings)	Dropout rate reduced by three points.
OPV (0,1,2,3) coverage rate	77.6 (2013/14 ZDHS)	90	81.2 (2018 ZDHS preliminary findings)	Target not achieved.
OPV1 to OPV3 doses drop-out rate	19.4 (2013/14 ZDHS)	N/A	15.9 (2018 ZDHS preliminary findings)	Dropout rate reduced by nearly 5 percentage points.
Penta (1,2,3)	85.8 (2013/14 ZDHS)	90	92.1 (2018 ZDHS preliminary findings)	Target achieved.
Penta 1 to Penta 3 drop-out rate	10.5 (2013/14 ZDHS)	N/A	5.9 (2018 ZDHS preliminary findings)	Dropout rate reduced by almost 5 points.
PCV 3 coverage rate	92.9 (2016, HIA 2)	90	90.6 (2018, HIA 2) 89.8 (2018 ZDHS preliminary findings)	Newly introduced vaccines prior to the ZDHS 2013/14.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Rota 2 coverage rate	N/A	90	90.6 (2018 ZDHS preliminary findings)	Newly introduced vaccines prior to the ZDHS 2013/14.
MR 1 coverage rate	84.9 (2013/14 ZDHS)	90	90.9 (2018 ZDHS preliminary findings)	Target achieved.
Fully immunized children coverage (%)	68.3 (2013/14 ZDHS)	79	75 (2018 ZDHS preliminary findings)	Improved noticeably but not reached the target.
Adolescent Health				
Adolescent birth rate per 1,000	141 (2013/14 ZDHS)	133	135 (2018 ZDHS Preliminary findings)	Slight reduction.
HIV prevalence among adolescents	Overall: 2.5, Male: 1.6%; Female: 3.3% (15-19 yrs, ZAMPHIA 2016) 0.9 (10-14 yrs, 2016 ZAMPHIA)	N/A	Male: 1.2%; Female: 2.6% (15-19 years, ZDHS 2018 preliminary findings)	Preliminary data from ZDHS 2018 suggest slightly lower levels of HIV prevalence.
Percentage of districts with minimum adolescent health package	42 (Programmes report)	N/A	48 (Programmes report)	
Percentage of adolescents with comprehensive right knowledge of HIV Prevention	Male – 39 Female – 42 Overall – 39.5 (2013/14 ZDHS)	60	Male – 41 Female – 43 Overall - 42 (2018 ZDHS Preliminary findings)	Young people age group used (15-24 years). Minimal progress made.
Percentage of women aged 20–24 who were married or in a union before age 15 and before age 18	Before 15yrs: 5.9% Before 18yrs: 31.4% (2013/14 ZDHS)	N/A	Before 15yrs: 9% Before 18yrs: 39% (2018 ZDHS)	Adolescent marriages and unions have increased
Gender-Based Violence and Child Sexual Abuse				
Proportion of individuals seeking PEP as a result of sexual assault		N/A	601 (2015, World Vision Zambia)	No baseline.
Number of children seeking health services as a result of sexual violence at a given period	3790 (HIA 2, 2016; UTH PCOE, 2016)	N/A	1565 (HIA 2, 2018; UTH PCOE, 2018)	Huge disparity in the figures from HIA 2 for 2018.
Malaria				
Malaria mortality rate per 100,000 population	15.5 (HMIS 2016)	13.3	7	Baseline was adjusted with new data; target achieved based on health facility data.
Malaria incidence per 1,000 population	336 (HMIS 2015)	168	312 (2018 HMIS)	No major decline, large differences among provinces.
Prevalence of malaria parasitaemia (children 6–59 months)	17% (ZMIS 2015)	9.0%	9.1% (ZMIS 2018)	Major decline since 2018 in all provinces.
% that slept under LLITN previous night - all % that slept under LLITN previous night: pregnant women (PW) 15–49,	All: 55% PW: 58.2%	All: 73.0% PW: 74.9%	All: 63.6% PW: 71.1%	Good progress during 2015-2018, but short of 2018 target.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
% that slept under LLITN previous night: children under 5 years) (%)	Under 5: 59.0% (ZMIS 2015)	Under 5: 75.4%	Under-5: 69.0% (ZMIS 2018)	
Proportion of treated malaria cases that were lab confirmed	83% (HMIS 2016)	N/A	96%	Nearly all malaria cases now lab confirmed.
IPT3 dose to pregnant women (%)	44.7% (ZMIS 2015)	N/A	67.3% (ZMIS 2018)	Major increase while IPT2 remained at about 80%.
IRS: percentage of households reached in past 12 months	28% (2015 ZMIS)	57.4%	35% (ZMIS 2018)	Increase in coverage by one-fifth, but far off 2018 target.
HIV/AIDS				
HIV deaths per 100,000 population	126 (HMIS, 2016)	110	N/A	
HIV incidence per 1,000 population	6.1 (2016, ZAMPHIA)	0.5	N/A	Only UNAIDS/Spectrum predicted estimates available.
HIV prevalence among 15-59 years	12.0% (2016, ZAMPHIA, 15-59 years)	10.0%	11.1% (ZDHS 2018, 15-49 years)	% HIV prevalence in 15-59yrs is slightly higher than in 15-49yrs; no decline.
ART coverage among eligible persons living with HIV infection (M/F)	85.1% (All) 86.2% (M) 84.4% (F) (ZAMPHIA 2016)	87.1% (All) 87.7% (M) 86.6% (F)	92% (HMIS Q2 2019) 84% (COP Q3 2018)	Indicator refers to those who have been diagnosed, not coverage; progress according to HMIS.
Viral load suppression among PLHIV	89.2% (All) 87.7% (M) 90.1% (F)	89.5% (All) 88.6% (M) 90.1% (F)	86.3% (HMIS Oct18- Sep19); 88% (COP Q3 2018)	Only data for both sexes was available, and viral load suppression was just short of target and baseline.
ART retention at 12 months	75% (HMIS 2015)	78%	N/A	No data.
HIV-positive women receiving ART for PMTCT	65% (NACP, 2012)	90% by 2017 (NACP)	>90% (UNAIDS) 88.5% HMIS 2018	
PMTCT: children testing positive within 18 months	5.0% (HMIS 2016)	3.4%	3.8% (HMIS 2018)	Good progress but short of target
Awareness of HIV positive status among 15-59 years	71% (All) 69% (M) 73% (F) (ZAMPHIA 2016)	75.7% (All) 73.4% (M) 77.0% (F)	90% (HMIS, Q2 2019)	Baseline corrected with ZAMPHIA data. Target achieved by 2019.
Condom use at last sex among those with 2+ partners in last year	27.4% (M, 15-59) 29.7% (F, 15-49) (ZDHS 2013/14)	50% (M) 50% (F)	26.5% (M) 38.2% (F) (ZDHS 2018)	No progress for men Progress not sufficient among women to reach target.
Knowledge of HIV among 15-19 years	39.5% (ZDHS 2013/14)	60%	39.5% (ZDHS 2018)	Knowledge of four prevention methods; no progress made.
Tuberculosis				

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
TB incidence rate / TB cases per 100,000	391 (2015, WHO)	335	346 (2018, WHO)	Incidence rates estimated by WHO.
TB death rate per 100,000 population	115 (WHO)	115	102	Death rates estimated by WHO.
TB notification rate (per 100,000 population)	231	N/A	202	Substantial decline.
TB treatment coverage / case detection per 100 incidence case	59.3%	N/A	58.5%	No progress, major impact on effective coverage.
TB treatment cure rate (success rate)	84% (HMIS, 2015)	86%	90%	Target surpassed in 2018, but effective coverage not progressing.
Multi-drug resistance: successfully treated TB cases (%)	30% (HMIS, 2015)	65% (2018)	71% (2016 cases)	Target surpassed.
TB/HIV patients on ART (%)	76% (HMIS, 2015)	77%	91% (2018)	Target surpassed.
Neglected Tropical Diseases				
Coverage of preventive chemotherapy for applicable NTDs	92.6% (2015)	95.2%	Ranging from 18% to over 90% (NTD programme, 2018)	LF and STH doing well, but schistosomiasis coverage is low.
Non-Communicable Diseases (NCD)				
Obesity and overweight prevalence among adults (M/F) (18–69 years) (%)	M: NA; F: 22.8 (15-49 years, 2013/14 ZDHS)	N/A	M: 16.2% F: 32.5% (18-69 years, STEPS 2017)	Prevalence of obesity and overweight has worsened among women.
Adults with insufficient physical activity (%)	N/A	17.8%	10.4% (STEPS 2017)	% lower than the target for which the basis is not clear.
Prevalence of raised blood glucose among adults 25–64 years (%)	N/A		Male: 6%; Female: 6% (2017 STEPS)	No baseline and target.
Age-standardized prevalence of current tobacco use among persons aged 15+ years (%)	Male: 20% Female: 1.6 (2013/14 ZDHS)	Male: 21% Female: 3%	Male: 23% Female: 2% (STEPS, 2017)	Good progress among females. Tobacco use increasing among males.
Adults with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg), %	N/A	N/A	All: 19%; M: 21%; F: 18% (STEPS, 2017)	
Mean salt intake among adults (in grams)	N/A	<5	All: 9.5g; F: 8.5g; M: 10.5g (STEPS, 2017)	Salt intake in Zambia is almost two times higher than the recommended daily allowance.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Health System				
Governance & financing				
Service (HP, HC & Hospital) and management (Province & District) units with functional governance structures for implementing, coordinating and monitoring NHSP 2017-21	(Administrative Reports, 2016)	100%	100%	Governance structures are virtually present in all institutions.
Service units with planning and reporting tools relevant to each level of care (policies, strategy, operational plans, M&E framework)	(Administrative Reports, 2016)	100%	100%	The target was achieved, although there is a need to better define the indicator.
Presence of functional coordination and partnership mechanism from community to national level	(Administrative Reports, 2016)	TBA	Yes	The target was achieved, although there is a need to better define the indicator.
Appropriate steward stability to implement policies				Qualitative assessment.
Programmes implemented according to NHSP (annual reports, performance reports etc.) (number)				Qualitative assessment.
Out of Pocket (OOP) health expenditure as a percentage of current expenditure on health	12.2% (2016 NHA report)	17.6%	No Data	The target is higher than baseline; OOP estimates by WHO are much higher.
Total current expenditure on health (%) of gross domestic product	4.5% (2016 NHA report)	9.0%	No Data	
Household Health Expenditure as percent of Total Health Expenditure	11.5% (2016 NHA report)		No Data	
Government expenditure on health as a percentage of total current expenditure	38.3% (2016 NHA report)	13.4%	No Data	
External source of current spending on health as percent of current expenditure on health	42.5% (2016 NHA report)	43.4%	No Data	
Total capital expenditure on health as a percent of current plus capital expenditure on health	5.1% (2016 NHA report)	8.8%	No Data	
Percentage of the population covered by health insurance	4% (2016 NHA report)	50%	4%	No progress made; National Health Insurance scheme commenced in October 2019
Health workforce				
Health worker density (MO, CO, nurses, and midwives)	12 per 10,000 population	35	16.5 (2019)	Major increase but the 2018 target is still far.
Percentage of approved posts filled by skilled personnel (doctors, medical licentiates, clinical officers, nurses, other) across the 6 levels of care	69.2% (WHO AFRO)	73.5%	47 (%)	This indicator was well below the target; Target is below baseline because of newly approved staffing establishment under the NHSP

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Health facilities with at least 80% of professional staff on establishment filled (in the 6 levels of care) (%)	73% (HRIS year)	85%	100%	Every facility in Zambia has qualified personnel.
Health facilities with at least one qualified health worker (%)	88%	90%	>95%	Achievement is above target.
Health Workers trained annually as percent of total professional workforce gap	N/A	N/A		No data.
Proportion of health workers recruited annually as percent of the workforce gap	N/A	N/A	16%	Significant achievements were made during 2018-19 with a deficit of 16% in 2018.
Health infrastructure, medicines, utilization				
Health facility density (by type and distribution) per 100,000 population	4.3 (2016, NHFC)	11.8	15.1 (NHFC, 2019)	Target achieved and exceeded. Significant variations across provinces.
Bed density and distribution (Inpatient, maternity, infant, isolation) per 10,000 population	20 (2015, WHO AFRO)	16	17.3 (NHFC, 2019)	Decline from the baseline value but density remains higher than the NHSP target.
Blood donation rate per 1,000 persons	7.8 (2015, WHO AFRO)	10.7	7.4 (2018 ZNBTS)	Indicator regressing.
OPD attendances by the catchment population in a period of time (outpatient)	4.2 (2016, HMIS)	3.5 (2018)	3.8 (2018 HMIS)	Given the uncertainty of catchment populations the indicator is difficult to interpret.
Health information system				
Coverage of birth registration	14	20.4	14.8%	Computed with the estimated births in 2018; need to strengthen the Civil registration system.
Coverage of death registration	N/A	N/A	13%	
Existence of a functional integrated data repository	N/A	N/A	Available	Data warehouse is not fully operational; other service areas not stored in data warehouse must be included.
Proportion of hospitals using correct ICD coding	N/A	20	13%	Inadequate ICT equipment has contributed to the low use of ICD10 coding.
Coverage of IDSR surveillance systems	25	55.0	100%	All the districts are using IDSR for reporting weekly and monthly.
Presence of comprehensive country health database for the past five years	N/A	N/A	Available	MoH has implemented the DHIS2 for routine health information system. Other data bases include: HRIS, Logistimo, EMLIS, planning and budgeting tool and NAVISION for expenditure reporting.
Completeness levels of facility reporting	80	84	90.3%	The report completeness has shown improvement due to enhancement of systems that monitor data entry; adherence to timeliness still remains a challenge.
Data accuracy levels of facility reporting	50	54	N/A	Accuracy is partly established by verification of data in site

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
				visits to selected health facilities; indicator difficult to capture but estimates can be obtained from programmes such as HIV, TB and Maternal Health.
Proportion of health facilities with functional EHR (by level of care)	20	32	31%	879/2698 are using EHR while 228/879 facilities are E-first facilities.

Analysis of NHSP interventions shows that the objectives and strategies of the strategic plan were developed in a manner that did not support tracking of its implementation. The monitoring and evaluation framework for the NHSP attempted to address this later on, leading to the use of multiple sources of secondary data to track NHSP progress. Despite the challenges of analyzing different sources of data for the NHSP indicators, the findings show that the Ministry of Health has made some progress towards achieving some of the NHSP priorities – though not yet achieved the expected impact on health and well-being. The analysis further shows that there are geographical and facility-based disparities in the distribution of health workforce, infrastructure, and essential medicines medical supplies. Improving the availability and equitable distribution of critical staff, appropriate infrastructure and essential medical supplies will influence the outcomes of implementing the NHSP for its remaining period.

Chapter 1: Introduction and Background

Introduction

The National Health Strategic Plan (NHSP) 2017-2021 is the Ministry of Health (MoH) main document that provides the guiding framework for the detailed planning and implementation of health sector activities. The overall mission of the NHSP is “to *provide equitable access to cost effective, quality health services as close to the family as possible.*” The goal of the NHSP is in line with the 7th National Development Plan, National Health Policy and the National Vision 2030 which begins with transforming the Country into healthy and productive people. Therefore, the Government of the Republic of Zambia (GRZ) through the Ministry of Health (MOH) has continued to prioritize health service provision as a pathway to achieving its goal. There are programme-specific indicators and plans in the NHSP which are key contributors to achieving targets. These indicators assess the sector’s performance and are consistent with 7NDP indicators.

The NHSP is implemented alongside with the M&E framework which is a comprehensive plan with guiding indicators for the sector. The M&E framework also specifies the key M&E targets at community, facility, district, provincial and national levels. The NHSP midterm review (MTR) is one of the key outputs outlined in the M&E framework. The Ministry of Health is reviewing its NHSP indicators and targets in order to assess the sector’s performance from 2017 to 2019 monitoring the performance of the indicators against the targets. The outcome of the Mid-Term Review will guide the Ministry in realigning or revising indicators against the targets.

Objectives of the MTR

The objective of the Mid-Term Review of the NHSP is to assess the performance of the Ministry towards achieving the targets and revise its indicators. The

Specific Objectives

- i. To assess sector’s performance against agreed indicators in the NHSP
- ii. To identify the challenges experienced, lessons learnt and best practices of the NHSP implementation
- iii. To propose recommendations and revise indicators that will assist the Ministry improve its performance. to the NHSP strategies and implementation modalities for the remaining
- iv. To assess and review the financing of the indicators in the NHSP that will provide comprehensive accounts of the current financial status and recommend strategies that will bridge the existing financial gap. Analyze distribution of resource allocation in terms of equity and efficiency in line with the coverage of indicators and effectiveness of health sector coordination mechanisms within the health sector.

The MTR process had two components namely; the Primary and Secondary outputs.

Below are some of the expected output

- i. A detailed overall MTR synthesis report for the NHSP 2017-2021
- ii. Reports by each of the three MTR review streams

- Stream 1: Health Sector Performance Review (an analytical report showing performance against indicators)
 - Stream 2: Implementation of NHSP Strategies/Activities and financing of the plan
 - Stream 3: Qualitative report explaining achieved performance and assessing contextual issues within the sector.
- iii. An executive summary of the overall report
 - iv. A set of power point slides summarizing the overall report and the stream specific reports

The expected secondary outputs included:

- i. Communication and dissemination strategy
- ii. Policy briefs

Chapter 2: Methodology of the Mid Term Review

Approach to the MTR

The MTR process was participatory and was conducted in three parallel but complementary streams of work.

Stream One

Assessed sector performance against agreed indicators. This stream produced the *MTR Stream One Data Analytics Report*, which provides a comprehensive picture of the country's health sector performance of indicators for the 2.5 years of the implementation of the NHSP. In addition, it provided information on priority areas for monitoring during the remaining NHSP implementation period.

Stream Two

This focussed on assessing the financing and implementation of the proposed high priority areas. The analysis produced the *MTR Stream Two - Financing and Implementation Report* which provided a comprehensive account of the current state of financing of the identified MTR priority strategies and their levels of implementation. In addition, the report proposed ways for generating more fiscal space and implementation scenarios for the remaining phase of the NHSP, and probably for the next NHSP.

Stream Three

Sought to explain the observed performance and assess alignment of sector or programme strategies to the NHSP. The stream further reviewed the alignment of the planning process within the sector and assessed the quality of the NHSP.

MTR Stream Three Report focused primarily on providing a qualitative assessment and explanation of the current state of health sector performance against the various NHSP targets. The report further provided recommendations on various health sector contextual factors that would need to be considered in the remaining phase of the NHSP implementation.

Conceptual Framework

Though the NHSP was not developed with an inbuilt Theory of Change (ToC) during its drafting, the country in 2019 developed a comprehensive health sector M&E Framework aimed at tracking and monitoring the various aspects of health sector performance during the NHSP implementation. This framework, which is an adaptation of the WHO AFRO Regional Framework for Health Systems Strengthening, outlines an elaborate process for health systems inputs, outputs, outcomes and impact assessment in a logical sequence.

We applied this framework in the development of data and information gathering tools for this MTR process. As already highlighted, since this framework was adopted in the sector after the launch of the NHSP, some necessary routine data gathering and reporting elements within the framework were not set in place. We thus utilized other sources of best available data where routine data was not available for any of the elements. In the cases where alternative data was lacking, we made specific recommendations to set up mechanisms for monitoring the respective elements in the remaining phase of the NHSP implementation.

Coordination and Governance of the MTR Process

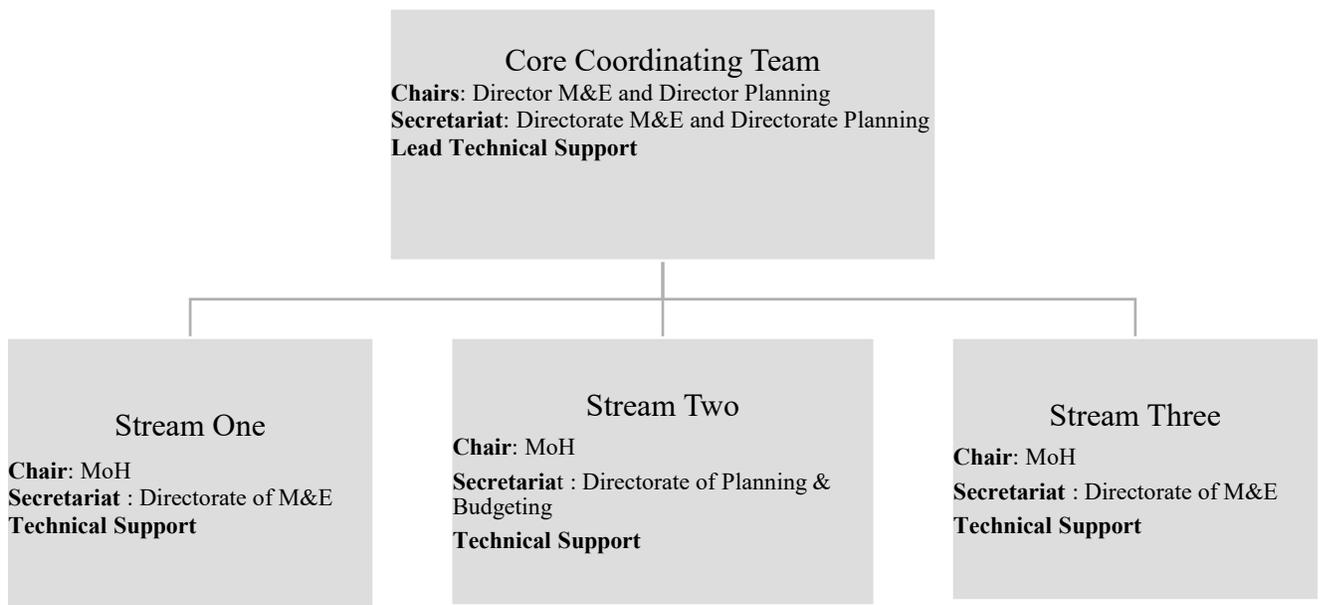
The MoH led the MTR process in Collaboration with its partners and other line Ministries. A coordinating team was formed with two Directorates within the Ministry spearheading the whole process of MTR.

The coordinating team consisted of officers from MoH, World Health Organization (WHO), other Government line ministries, Local Stakeholders and a team of local and international consultants. The coordinating team was jointly chaired by the MoH Director of Planning and MoH Director of Monitoring & Evaluation. The MoH Directorate of Policy & Planning and the Directorate of Monitoring and Evaluation provided the secretariat role for the MTR process with technical support from the local and international lead consultants.

Each stream was coordinated by a Technical Working Group (TWG) consisting of members from the coordinating team and resource persons that were supported and guided by a local and an international consultant.

Figure 1 below outlines the coordination framework for the MTR

Figure 1: The Coordination Framework for the MTR



Chapter 3: Progress and Achievements in Health Service Delivery

Key findings at mid-term:

- Total fertility has declined from 5.3 to 4.7 between ZDHS 2013/14 and 2018.
- Use of modern contraceptives has increased among all women, including adolescents, with married women mainly using injectable followed by implants (LARCs).
- The contraceptive prevalence rate has increased in Zambia during the 2001-2018 period. FP coverage (the proportion of married women with family planning demand satisfied) increased by 5 percentage points between ZDHS 2013/14 and 2018.
- Inequalities in FP coverage decreased: there were greater increase in modern contraceptive use among women living in rural areas and in poorer households or having less education, and in most provinces with lower coverage at baseline.

Reproductive, Maternal, New-born, Child and Adolescent Health (RMNCAH)

During the implementation of the NHSP, the RMNCAH programme set out demand for sexual & reproductive health services, increased the availability and utilization of high-impact sexual & reproductive health services, increased the availability and utilization of quality-focused antenatal care (FANC) services, increased access to skilled birth attendance, improved access to postnatal care services, and strengthened the enabling environment for RMNCAH.

Family Planning Services

The NHSP aimed to scale up family planning (FP) services with a focus on community-based distribution of long-acting reversible contraceptives (LARCs) and post-partum family planning. Implementation is being monitored through FP-related indicators that include: fertility rate, proportion of women in a sexual union with FP demand satisfied through modern methods, contraceptive prevalence rate, and coverage rate in terms of FP demand satisfied.

Table 2: Summary of the performance of Key family Planning Indicators

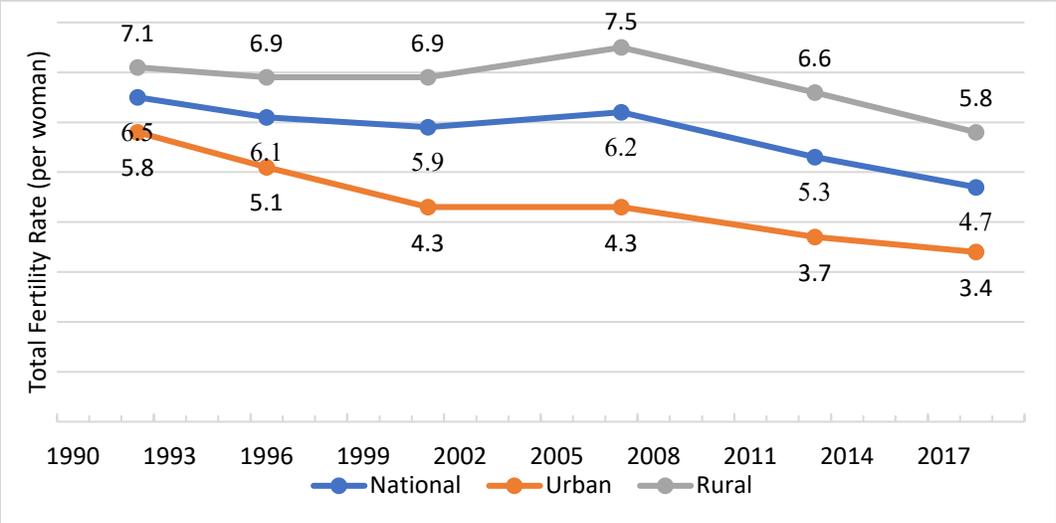
Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
Reproductive health				
Fertility rate (per 1000 women)	152 (2014)	132	134 (ZDHS 2018 preliminary)	Fertile rate declined by 18 per 1000, nearly reaching the target.
Fertility rate among adolescents (per 1000 girls)	141 (2014)	121	135 (ZDHS 2018 preliminary)	Fertility rate among adolescents declined slightly, and not quite halfway to the target.
Women in sexual union with FP need satisfied with modern methods (%)	63.8 (ZDHS 2013/14)	76	68.5 (ZDHS 2018 preliminary)	5 percentage point increase-steady progress.

Contraceptive prevalence rate (% modern methods)	32.5 (ZDHS 2013/14)	56	47.5 (ZDHS 2018 preliminary)	Target was for all women while achievement is among married women only (value for all not available in preliminary 2018 report).
Contraceptive prevalence among adolescents (% modern methods)	10.2 (ZDHS 2013/14)	38	37.8 (ZDHS 2018 preliminary)	Target is for all adolescents; achievement is among adolescents who were married.
Percentage of clients accessing LARCs	4 (2016, HMIS HIA 2)	N/A	4.5 (HMIS, HIA 2)	Indicator not available in the NHSP and M&E framework.
Couple Years of Protection Rate (CYP)	33.3 (2016, HMIS HIA 2; 2018 CSO Pop. Proj.)	N/A	35.6 (2018, HMIS HIA 2; 2018 CSO Pop. Proj.)	Indicator not available in the NHSP and M&E framework.

Total Fertility Rate

Total Fertility Rate (TFR) has been progressively decreasing since 2007 as illustrated in *Figure 2* below. It has also consistently remained higher among women living in rural compared to urban areas.

Figure 2: Total Fertility Rate in National, Urban and Rural Zambia

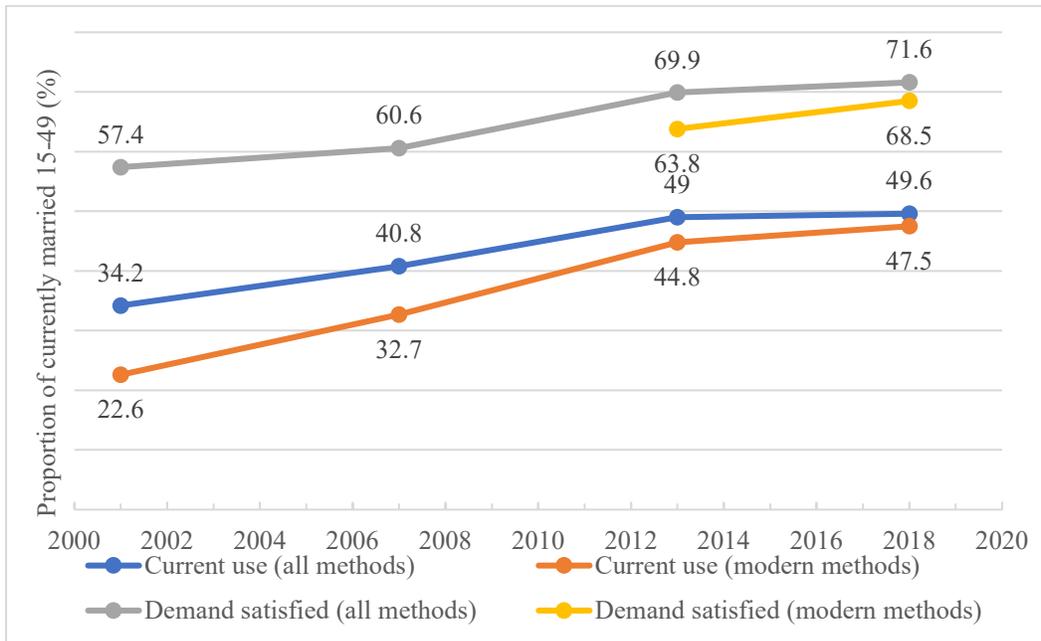


Data source: ZDHS 1992 - 2018

Contraceptive Prevalence Rate and FP Coverage

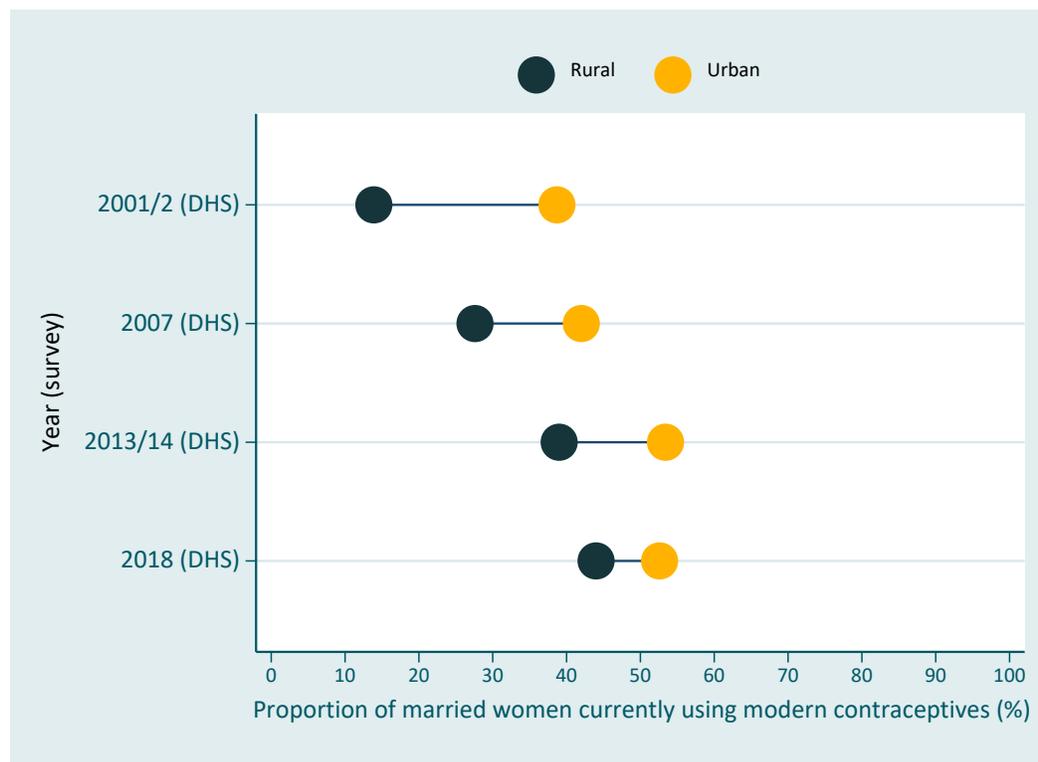
Figure 3 shows contraceptive use and coverage among married women in Zambia. The use of modern contraceptive methods among married women has more than doubled since 2001/2 and it accounted for most of the increasing proportion of all contraceptive use in 2018 at 47.5% (compared to 49.6% for all methods of contraceptive use). The use of modern contraceptives among married women increased more in rural areas than urban areas such that the urban-rural gap reduced from 24.8%points in 2001, to 14.4 % in 2013/2014, and 8.6% 2018 respectively (Figure 4).

Figure 3: Trends in contraceptive use among Married Women



Data source: ZDHS 2001 - 2018

Figure 4: Contraceptive Use in Rural and Urban Zambia



Data Source: ZDHS 2001 - 2018

As shown in *Figure 3* above, the coverage (demand satisfied) of all family planning methods among women in a sexual union increased from 57.4% in 2001/2002 to 71.6% in 2018, with modern methods accounting for most of the FP coverage in 2018 (68.5% demand satisfied by modern methods compared to 71.6% demand satisfied by all methods).

Figure 5 below compares FP coverage rates among the Provinces in Zambia based on ZDHS 2013/14 and 2018 data. The family planning use has increased tremendously in Central Northern, Muchinga, Laupula and North-Western Provinces respectively unlike Western Province where a decrease has been reported. Family Planning coverage has been noted to be more equitable between socio-economic groups among the married women. Interestingly, in terms of wealth quantile, the poor seem to have a higher coverage unlike the rich. According to the 2013/14 ZDHS, the absolute difference between the poorer and the wealthier groups was 22.6% whereas in 2018 it nearly halved to 12.3 % respectively. The equity gap in modern contraceptive use between education groups also reduced between 2001/2 to 2018 ZDHS, with the most recent difference between the highest and lowest education groups reducing from 25.3 to 16% between 2013/14 and 2018.

Figure 5: Coverage Rates of Modern FP Methods among Married Women aged 15-49 Years by Province

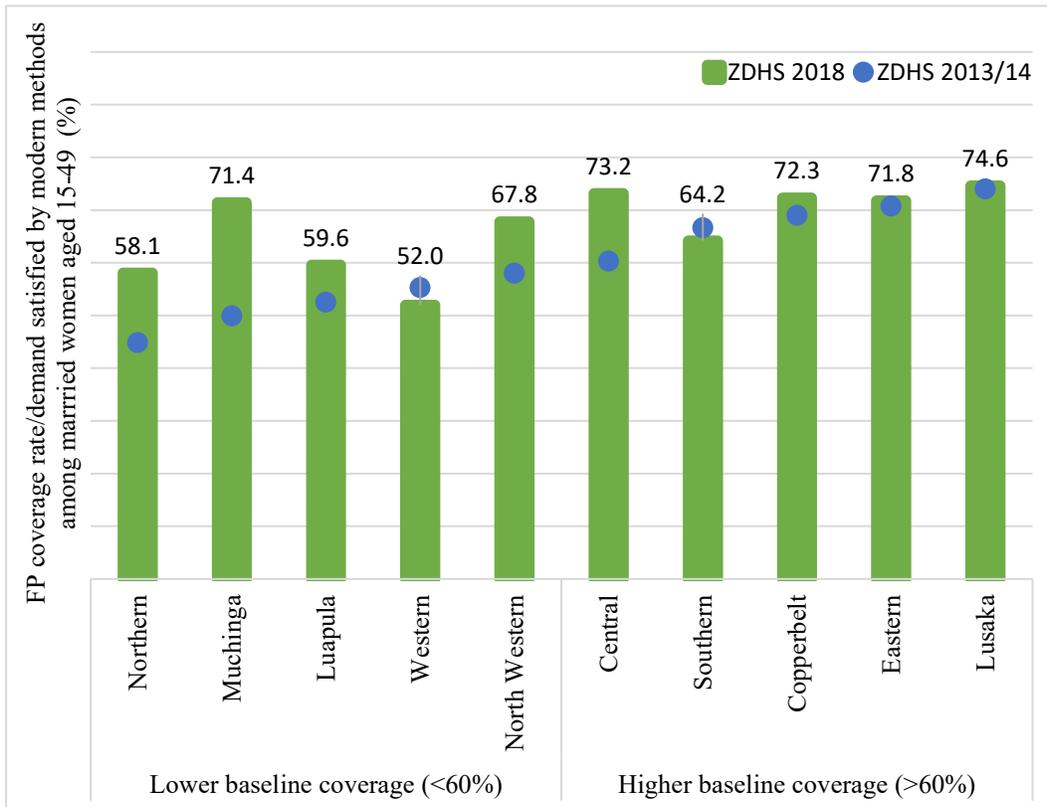
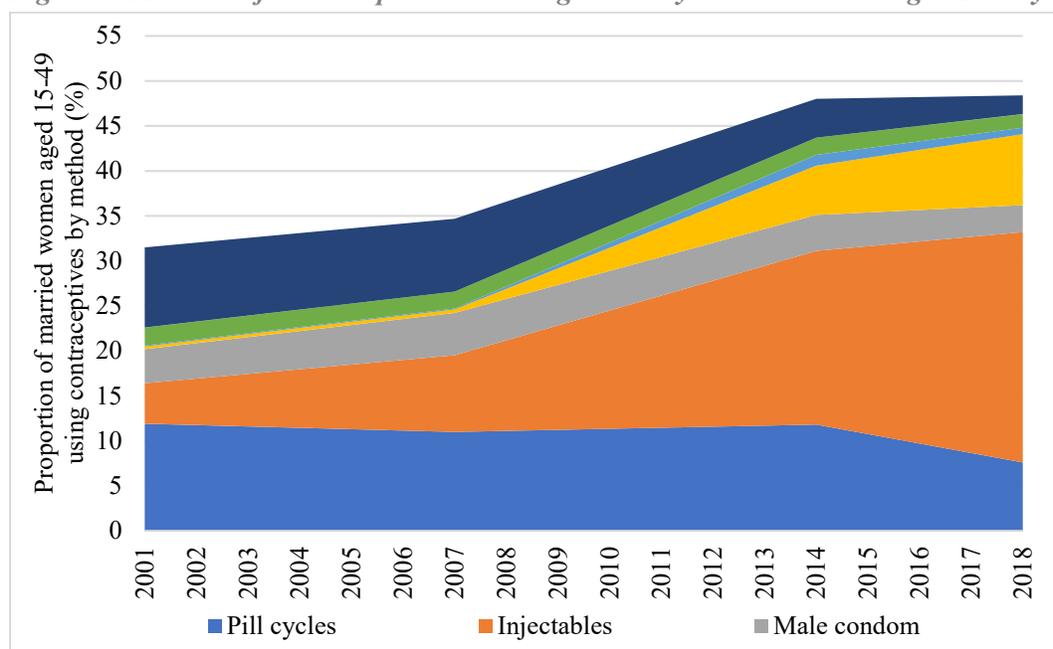


Figure 6 below shows the difference contraceptive methods from 2001 to 2018. The largest increase in contraceptive use happened between 2013/14 & 2018 – particularly the use of injectable (19.9% to 25.6%) and implants (5.5% to 7.9%). The proportion of married women using any traditional methods has been decreasing over time (4.3% to 2.1% in between recent ZDHS). Pill cycles declined noticeably (11.8% to 7.8%), while male condom use also declined from 4% to 3%, between 2013/14 and 2018. Intrauterine devices IUDs remained an uncommon method (below 1%) whereas female sterilization made up a similarly low proportion over time (2% to 1.5%).

Figure 6: Methods of contraceptive use among currently married women aged 15-49 years in Zambia



Data source: ZDHS 2001 - 2018

Couple Years of Protection (CYP)

Based on HMIS data, CYP rate increased slightly by 2 percentage points between 2016 and 2018.

Table 3: Couple Years of Protection Rate, HMIS - HIA 2 Data 2016 & 2018

YEAR	Couple Years of Protection (CYP) Rate
2016	33.3
2018	35.6

Maternal Health Services

The NHSP and its M&E framework had indicators that were related to pregnancy outcomes, antenatal care, delivery care, and postnatal care within the first 24 hours as outlined in *Table 4* below.

Key findings at mid-term:

- The pregnancy-related mortality ratio in the country declined from 398 to 278 per 100,000 live births between 2013/4 and 2018 (ZDHS).
- The proportion of new-born babies with low birth weight (<2500 grams) has increased in the past five years, indicating that attention is required.
- As at 2018, coverage of at least one ANC visit was high (97%), but the proportion with four or more visits was lower (64%) and appeared to have declined somewhat from previous years.
- Whereas the rate of four or more ANC visits was higher among pregnant women in urban areas in 2001/2, the gap progressively narrowed and by 2018, the rate was higher in rural areas.
- The number of women screened for syphilis and anaemia at first ANC did not increase greatly.
- The NHSP 2018 targets for deliveries and postnatal care have either been achieved or nearly reached. The 2018 target of 79% women delivering under a skilled attendant was surpassed by 1.4 percentage points whereas the target for postnatal care within 48hrs was nearly reached
- Socioeconomic inequities have reduced as a result of the increasing number of women in the poorest wealth quintile seeking deliveries attended by a skilled provider as well as postnatal care services.

Table 4 below summarises the achievements for key Maternal and New-born Care (MNC) indicators.

Table 4: Summary of performance for key maternal and new-born indicators

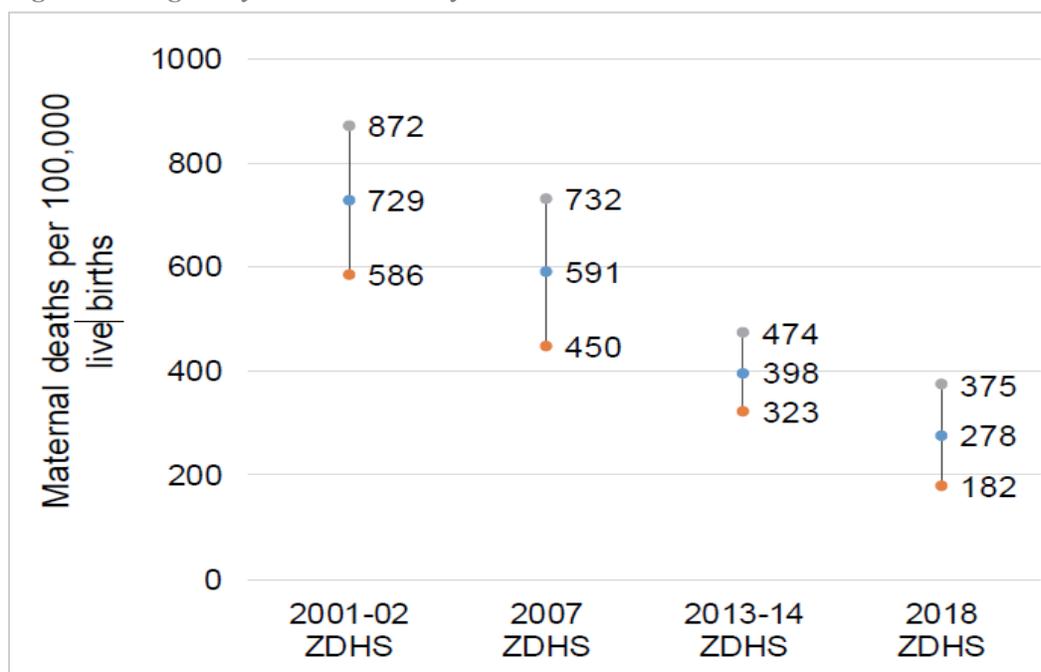
Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Maternal and Newborn Care				
Pregnancy outcomes				
Maternal Mortality Ratio (per 100,000 live births)	398 for 2007-2014 (ZDHS 2013/14)	250	278 for 2012-2018 (ZDHS 2018)	Maternal mortality has declined and is likely to have reached the target.
Low Birth Weight (% of live births)	9.7 (HMIS, 2016)	7.8	11.4 (HMIS 2018)	Low birth weight has increased in health facility births.
Antenatal care				
First ANC coverage (Total 1 st Antenatal visits) (%)	95.7 (2013/14 ZDHS)	97	97% (ZDHS 2018), near 100% (HMIS 2018)	
1 st Antenatal visit before 14 weeks (%)	24.4 (2013/14 ZDHS) 12% (HMIS 2016)	45	22% (HMIS 2018)	An increase during 2016-2018, but well short of target.
4+ Antenatal visits before delivery (%)	55.5 (2013/14 ZDHS) 42% (HMIS 2016)	65	63.5 (ZDHS 2018); 52% (HMIS 2018)	Inconsistencies between HMIS and ZDHS but increase in both.
Syphilis screening coverage of 1 st ANC clients (%)	44 (HMIS 2013)		56.3 (HMIS 2018)	Increase of about 12 percentage points.
Anemia screening coverage of 1 st ANC clients (%)	85.2 (HMIS 2013)		89.5 (HMIS 2018)	Increase of 4 percentage points. No target set.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Delivery and postnatal care				
Percentage of institutional deliveries (%)	67.4 (ZDHS 2013/2014)	N/A	83.8 (2018 ZDHS)	Increase of 23%. No target set in the M and E plan.
Percentage of skilled deliveries (%)	64.2 2013/14 ZDHS	79	80.4 (2018 ZDHS)	Target has been achieved and surpassed by 1 percentage point.
Caesarean section rate (%)	5.0 (2015 HMIS)	7.0	7.3 (2018 HMIS)	Target has been achieved and surpassed by 2.3 percentage points.
Postnatal care visit within 48 hours after delivery (%)	63.4 (2013/14 ZDHS)	74	69.7 (2018 ZDHS)	

Pregnancy Outcomes

Pregnancy-related mortality declined from 729 in 2001 to 398 in 2013/14, and down to 278 in 2018. *Figure 7* below shows the estimated mortality ratios for the 2001-2018 period and their confidence intervals.

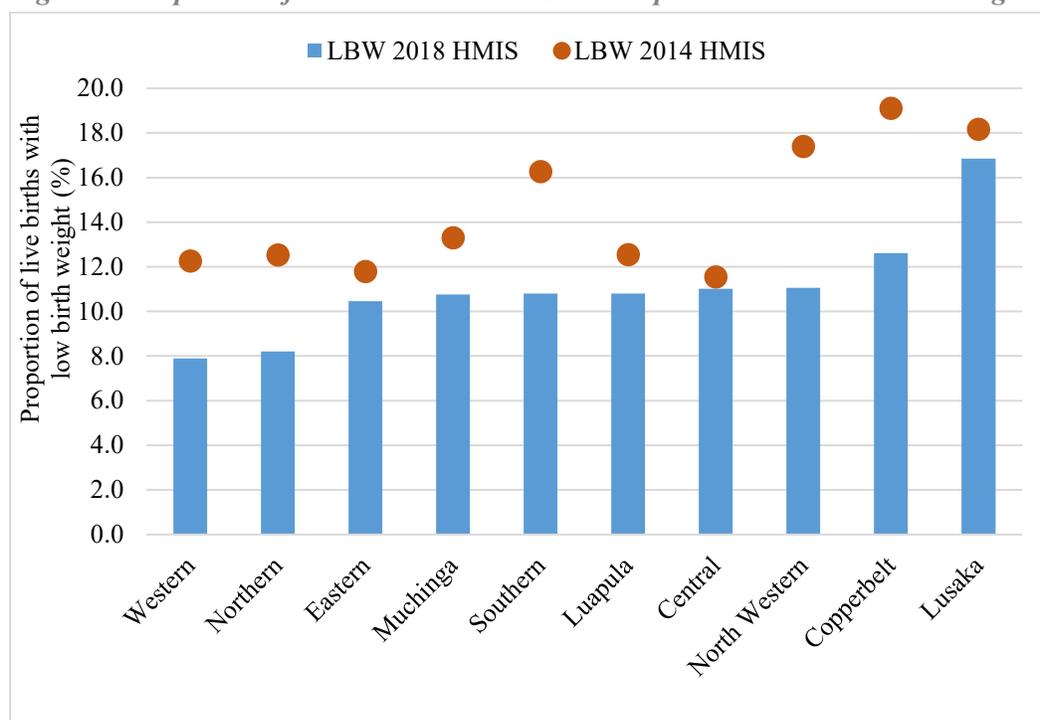
Figure 7: Pregnancy-related mortality in Zambia



Data source: ZDHS 2001- 2018

Though the proportion of births with low birth weight in 2018 was less than that in 2013-2015, a survey can not be compared to estimates. *Figure 8* below disaggregates the reduction in proportion of live births with low birth weights by province using HMIS 2014 & 2018 data. The three provinces that had the highest reduction in the proportion of live births with low birth weights are Southern, Copperbelt and North-Western provinces.

Figure 8: Proportion of new-born babies in Zambian provinces with low birth weight (<2500gms)

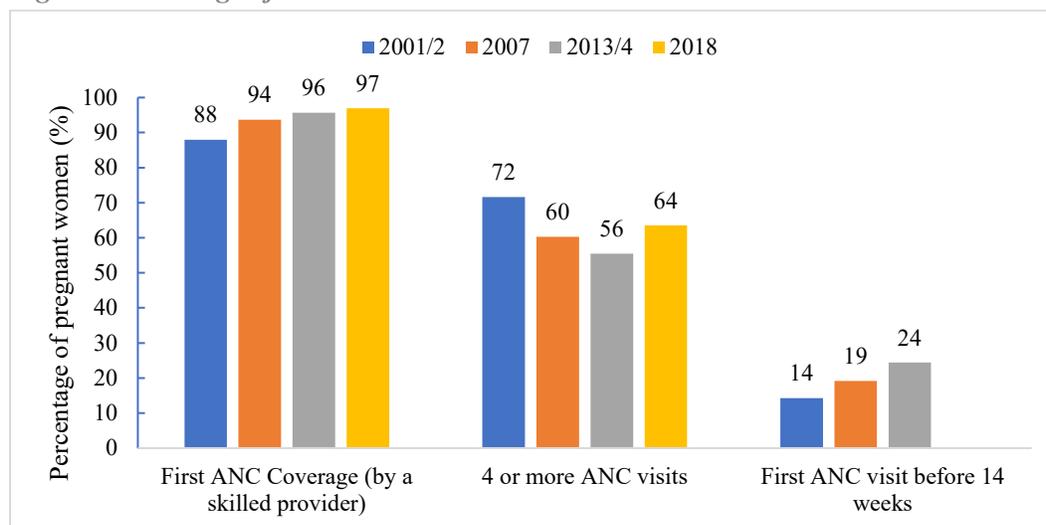


Data source: HMIS 2014 - 2018

Antenatal Care

Figure 9 below shows the attendance of pregnant women for antenatal care (ANC) as informed by the ZDHS 2001-2018 data. The proportion of women that have had at least one ANC visit has been increasing and by 2018, nearly all women (97%) had had at least one ANC visit. On the other hand, the proportion of pregnant women reporting to have had four or more ANC visits seem to have been reducing since 2001, though a comparison of ZDHS 2018 with ZDHS 2013/14 data shows an increase in the proportion of pregnant women having more than four ANC visits. The proportion of pregnant women having their first ANC visit before 14 weeks has increased to 14% in 2001 to 25% in 2018. Figure 9 below summarizes ANC coverage for the 2001-2018 period.

Figure 9: Coverage of antenatal care in Zambia

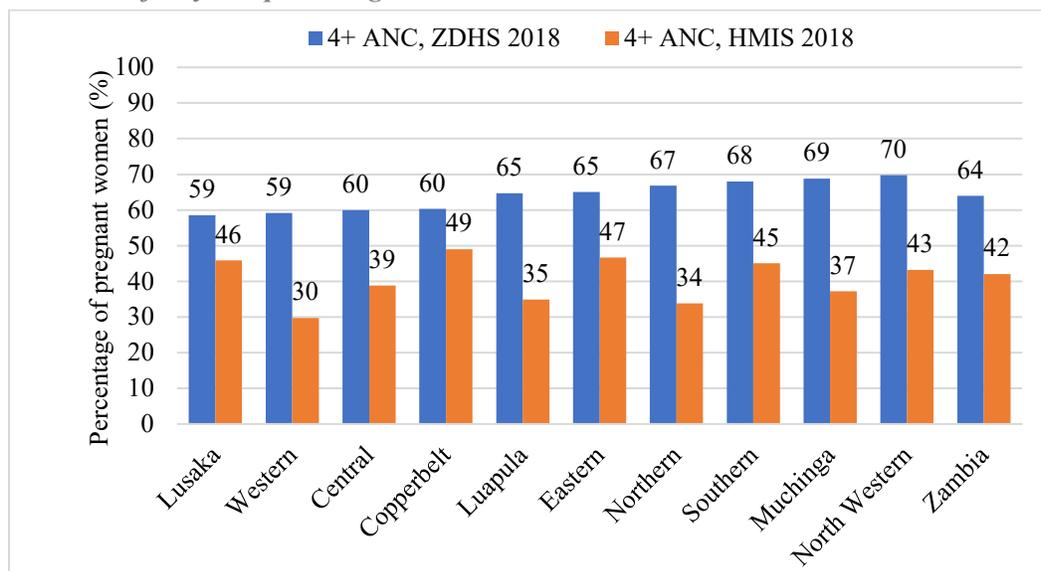


Data source: ZDHS 2001 – 2018

Coverage of four or more ANC visits among women who had given birth in the five years preceding a ZDHS varied somewhat between regions, and *Figure 10* below shows this variation using HMIS 2014-2018 and ZDHS 2018 data. Coverage was highest in North Western, Muchinga and Southern provinces (around 70%) according to the ZDHS 2018, but highest in Copperbelt, Eastern and Lusaka provinces (over 46%) according to the HMIS 2014-2018 data. Coverage was lowest in Lusaka and Western Provinces according to the ZDHS 2018 (59%) but lowest in Western, Northern and Luapula provinces according to HMIS 2014-2018 (around 35%).

The urban-rural gap of four or more ANC visits has progressively narrowed since 2001 to a point of reversing in 2018. The percentage difference was over 10% in 2001/2002 ZDHS (80% coverage in urban versus 68% in rural), nearly the same coverage in 2013/2014 ZDHS at 55%, and in ZDHS 2018, coverage had reversed to have 61% of women in urban against 65% of women in rural areas having four or more ANC visits.

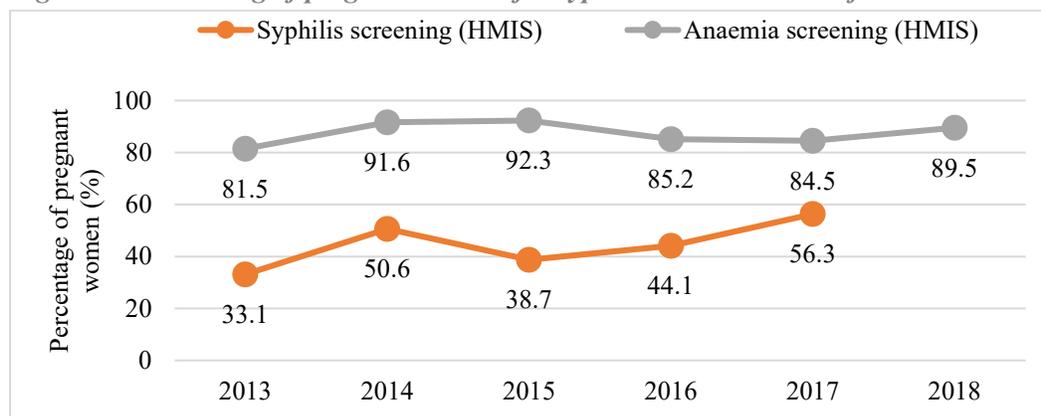
Figure 10: Coverage of 4 or more ANC visits by pregnant women aged 15-49 years who had given birth in the five years preceding 2018



Data source: ZDHS 2018 and HMIS 2014 - 2018

There was an increase in the number of pregnant women screened for syphilis and anaemia (defined as having low levels of haemoglobin (<8.5g/dL)) during the first ANC visit. The numbers screened for syphilis during the first ANC visit increased from 33.1% in 2013 to 56.3% in 2018, while those screened for anaemia during the first ANC visit increased from 81.5% in 2013 to 89.5%.

Figure 11: Screening of pregnant women for syphilis and anaemia at first ANC visit



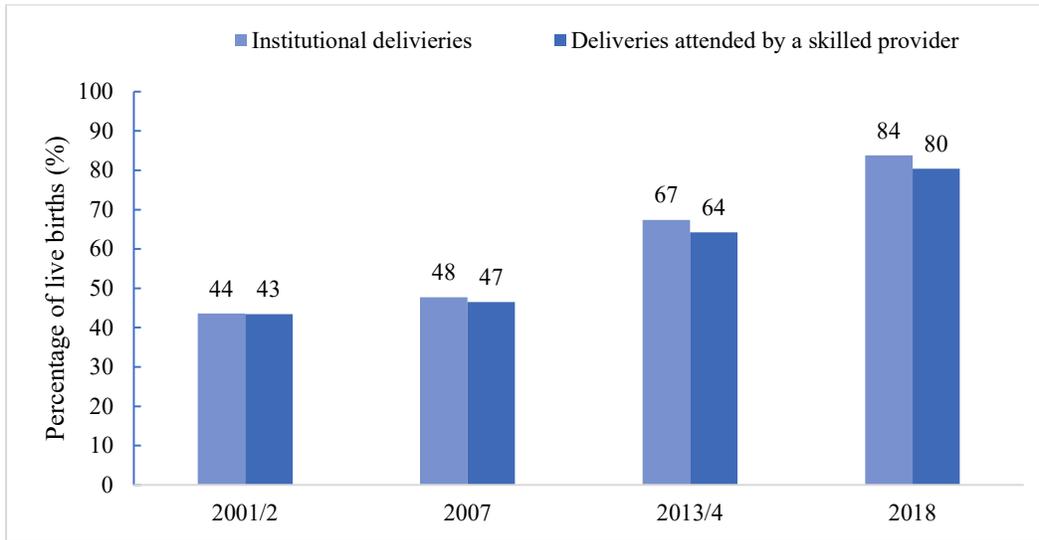
Data Source: HMIS 2013 - 2018

Deliveries and Postnatal Care

As shown in *Figure 12* below, which used ZDHS data that is based on data from approximately five years preceding a ZDHS, the proportion of live births that are institutional deliveries has increased from 44% in 2001 to 84% in 2018. The 2014-2018 HMIS data also showed an increase in institutional deliveries from 69% in 2016 to 72% as at 2018. Deliveries attended by a skilled birth attendant (SBA) have also increased from 43% of all live births in 2001 to 80% in 2018 hence surpassing the 2018 target of 79%. Deliveries attended by a skilled provider (SBA) were slightly less than institutional deliveries as shown in *Figure 12* below.

In 2007, SBA was highly inequitable with the percentage difference between the richest and the poorest being 64 percentage points (91% of women in the richest wealth quintile getting SBA against 27% of women in the poorest wealth quintile). Socioeconomic inequities in SBA have however reduced over time to 29 percentage points in 2018 (96% of women in the richest wealth quintile getting SBA against 67% of women in the poorest wealth quintile).

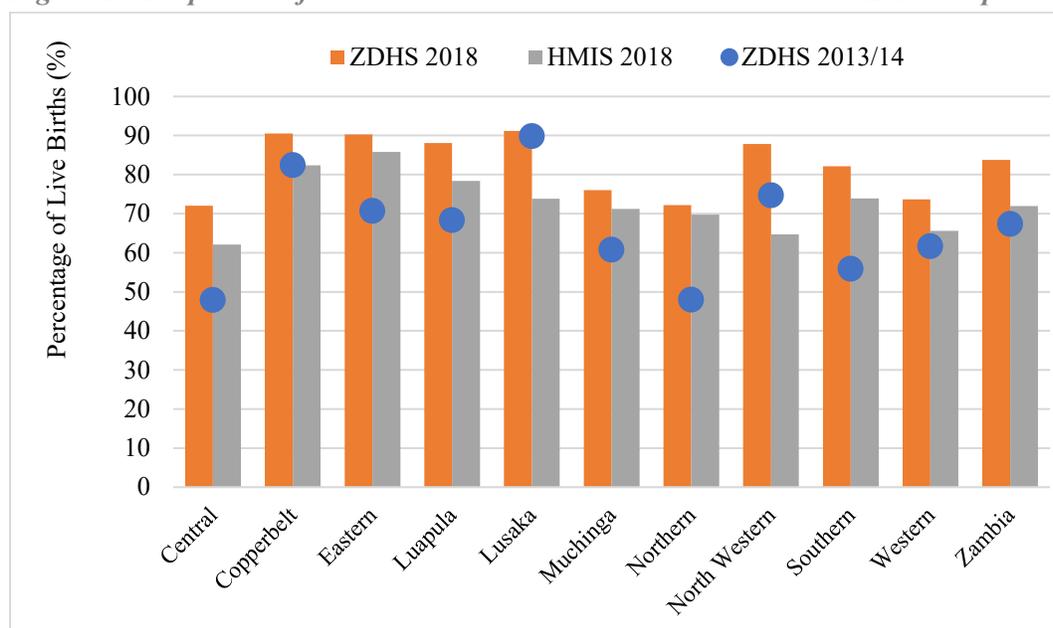
Figure 12: Proportions of Live births that were institutional deliveries or conducted by a skilled birth attendant in Zambia



Data source: ZDHS 2001 - 2018

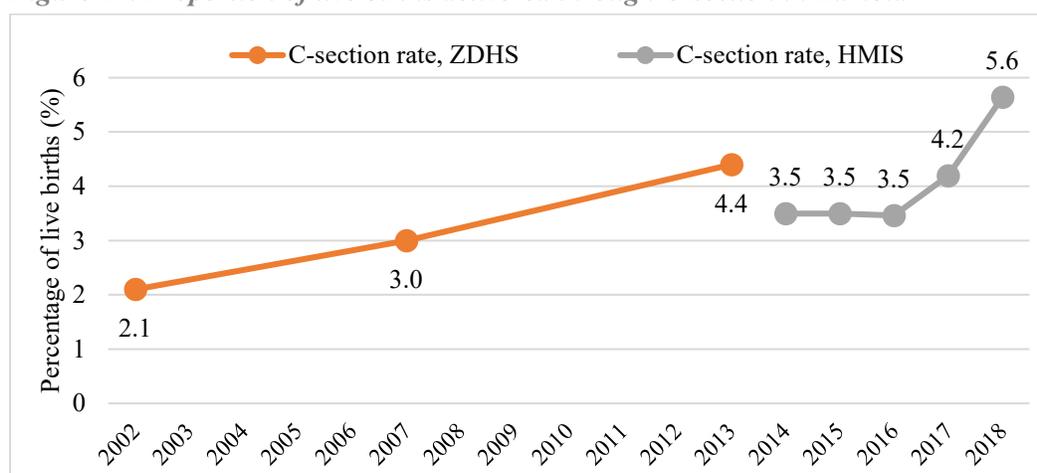
Figure 13 presents the proportions of live births that were institutional deliveries aggregated by province using ZDHS 2013/14 & 2018 data as well as HMIS 2018 data. The greatest increase in institutional deliveries occurred in Central and Northern provinces that had the lowest rates of institutional deliveries in 2013. Southern, Muchinga, Eastern, Luapula, Western and Copperbelt provinces also improved but with moderate rates whereas Copperbelt, North Western and Lusaka provinces had high institutional deliveries in 2013/14 and less improvement by 2018.

Figure 13: Proportion of live births that were institutional deliveries in Zambian provinces



While it can be a life-saving intervention, the level of need for C-sections in a population is difficult to determine and has often been given in the range of 10–15% of all live births according to WHO. C-section rates in Zambia have remained below the WHO recommended rates of 10-15% but increased by a few percentage points in the last few years (Figure 14). The increase likely reflects the increase in institutional deliveries as well. The C-section rate based on ZDHS data doubled from 2% in 2001/2 to 4.4% in 2013/14. Based on the HMIS data, C-section rate increased from 3.5% in 2014 to 5.6% in 2018.

Figure 14: Proportion of live births delivered through C-section in Zambia

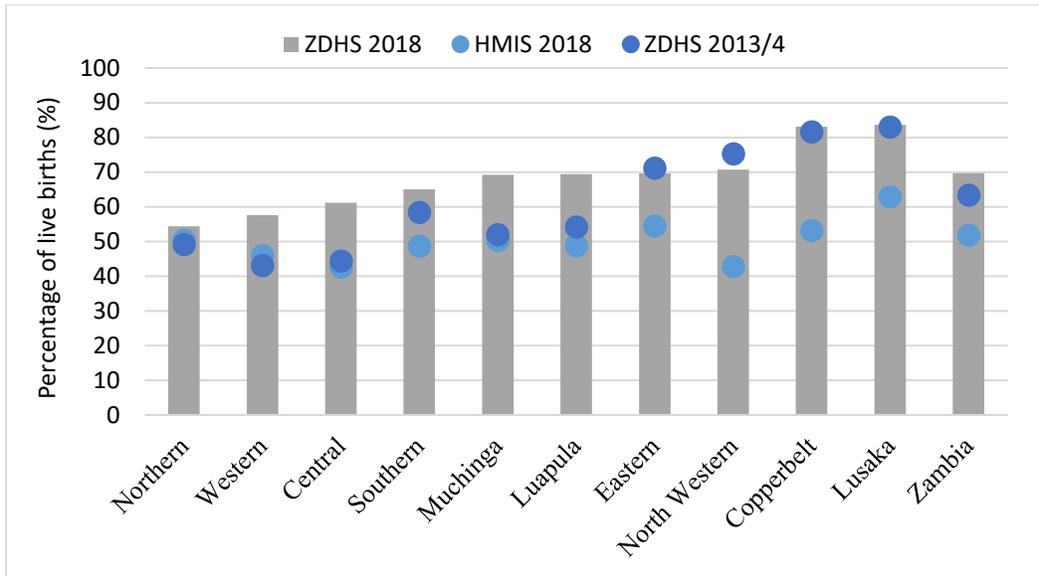


Data source: ZDHS 2001 – 2013 and HMIS 2014-2018

Attendance for postnatal care (PNC) within 48 hours increased from 63% in 2013 to 70% in 2018 in Zambia. PNC attendance within 48 hours also increased in this period in most provinces as shown in Figure 15. The increase was most notable in provinces with a lower 2013/2014 baseline (about 60%) and include Western, Central, Muchinga and Luapula provinces that had 13, 17, 17 and 15 percentage points respectively. In Eastern and North-Western provinces, attendance for PNC reduced by 1 and 5 percentage points respectively. Based on both HMIS 2018 and ZDHS 2018 data, attendance of four or more PNC

visits was highest in Lusaka, with the ZDHS 2018 data estimating the attendance at 84% whereas the HMIS 2018 data estimated attendance at 63% (after adjusting using a correction factor for underreporting). The two sources of data however identified different provinces for the province with the lowest rate of four or more PNC visits: Northern province by ZDHS 2018 data (54%) and Central Province by HMIS data (43%).

Figure 15: Proportion of live births receiving postnatal care within 48 hours of delivery among women aged 15-49 years in Zambian provinces



In 2007, 72% of women in the richest quintile reported to have had a PNC visit within the first 48 hours of delivery against 24% of women in the poorest. In 2018, PNC visit within 48 hours of delivery improved to 84% in the richest quintile and 57% in the poorest quintile. Therefore, socioeconomic inequality gap on PNC visit within the first 48 hours of delivery has reduced from 48 percentage points in 2007 to 27 percentage points in 2018 due to increasing PNC visits among the lower wealth quintiles by 2018.

Child Health and Nutrition

Under the Child health and nutrition, the NHSP set out to scale up high-impact child survival & nutrition interventions and improve coordination of the health system to support delivery of child health & nutrition services. The NHSP framework had indicators for child health and nutrition that covered treatment of child illnesses, nutrition status of children and immunization of children.

Key findings at mid-term:

- Nutritional status in children has generally improved; stunting and overweight among children reduced somewhat whereas wasting reached the 2018 NHSP target.
- Overall, coverage of fully immunized children aged 12-23 months has improved from 68% ZDHS 2013/14 to 75% in ZDHS 2018. Similarly, coverage of each of the basic vaccinations and doses has also increased over the last 5 years.
- There were small increases in health-seeking behaviours for the treatment of childhood illnesses between 2013/14 and 2018 ZDHS.
- Coverage of oral rehydration solution for children with diarrhoea improved nearly 3 percentage points, while appropriate care-seeking for children with pneumonia increased by under 1 percentage point.

Table 5 below outlines some of the achievements in the key priority child health and nutrition indicators

Table 5: Summary of performance in key child health and nutrition indicators

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Nutritional status and treatment of childhood illnesses				
Percentage of children underweight	15 (2013/14 ZDHS)	9.8	12 (2018 ZDHS Preliminary findings)	Some progress made.
Percentage of children stunted	40 (2013/14 ZDHS)	29.6	35 (2018 ZDHS Preliminary findings)	Some progress made.
Percentage of children wasted	6 (2013/14 ZDHS)	4	4 (2018 ZDHS Preliminary findings)	Target achieved.
Percentage of children with minimum acceptable diet	11 (2013/14 ZDHS)	N/A	12 (2018 ZDHS Preliminary findings)	Minimum acceptable diet rather than minimum dietary diversity was used to allow comparison.
Exclusive breastfeeding 0-6 months	72.5 (2013/14 ZDHS)	75.8	69.9 (2018 ZDHS Preliminary findings)	Target not met. Slight decline in exclusive breastfeeding.
Breastfeeding initiated within 1 hour of birth (%)	65.8 (2013/14 ZDHS) 87 (HMIS 2016)	79	83 (2018 HMIS)	Target may have been reached, according to preliminary value for 2018.
Percentage of children with diarrhoea receiving Oral Rehydration Solution (ORS) and Zinc supplements (%)	64.1 (2013/14 ZDHS)	79	66.8 (2018 ZDHS Preliminary findings)	Zinc was not offered previously, thus ratios compared were for ORS only.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Percentage of caregivers with appropriate care-seeking for symptoms of pneumonia (%)	71.9 (2013/14 ZDHS)	82	74.5 (2018 ZDHS Preliminary findings)	
Immunization of children				
BCG coverage	94.9 (2013/14 ZDHS)	90	97.5 (2018 ZDHS preliminary findings)	Target achieved.
BCG to Measles 1 dose dropout rate (new)	10.5 (2013/14 ZDHS)	N/A	6.8 (2018 ZDHS preliminary findings)	Dropout rate reduced by three points.
OPV (0,1,2,3) coverage rate	77.6 (2013/14 ZDHS)	90	81.2 (2018 ZDHS preliminary findings)	Target not achieved.
OPV1 to OPV3 doses drop-out rate	19.4 (2013/14 ZDHS)	N/A	15.9 (2018 ZDHS preliminary findings)	Dropout rate reduced by nearly 5 percentage points.
Penta (1,2,3)	85.8 (2013/14 ZDHS)	90	92.1 (2018 ZDHS preliminary findings)	Target achieved.
Penta 1 to Penta 3 drop-out rate	10.5 (2013/14 ZDHS)	N/A	5.9 (2018 ZDHS preliminary findings)	Dropout rate reduced by almost 5 points.
PCV 3 coverage rate	92.9 (2016, HIA 2)	90	90.6 (2018, HIA 2) 89.8 (2018 ZDHS preliminary findings)	Newly introduced vaccines prior to the ZDHS 2013/14.
Rota 2 coverage rate	N/A	90	90.6 (2018 ZDHS preliminary findings)	Newly introduced vaccines prior to the ZDHS 2013/14.
MR 1 coverage rate	84.9 (2013/14 ZDHS)	90	90.9 (2018 ZDHS preliminary findings)	Target achieved.
Fully immunized children coverage (%)	68.3 (2013/14 ZDHS)	79	75 (2018 ZDHS preliminary findings)	Improved noticeably but not reached the target.

Nutrition Status of Children

The three nutritional status indices (stunting, wasting, and underweight) have improved in the last five years. Between ZDHS 2013/14 and 2018, stunting decreased from 40% to 35%, wasting from 6% to 4%, and underweight children from 15% to 12%. The improvement in the nutritional status indices generally occurred for children under five in all age groups, though decrease in stunting was more notable for those aged 9 – 35 months while decrease in those underweight was more notable for those aged 6 – 11 months. *Figure 16* below shows the nutrition status of children in 2013/14 and 2018 using the key indicators for nutrition status.

Aggregating change in nutrition status by province, stunting appeared to reduce in most provinces as shown in *Figure 17* below. The largest improvement in stunting was in Muchinga, Central and Eastern provinces while the least improvement was in Lusaka and Luapula provinces, where stunting rates changed slightly by 2018. Stunting reduced among all wealth groups in the 2013/14-2018 period, though the difference between the poor and the rich remained more or less the same at about 15 percentage points.

Figure 16: Nutritional status of children under Five Years in Zambia, ZDHS 2013/14 & 2018

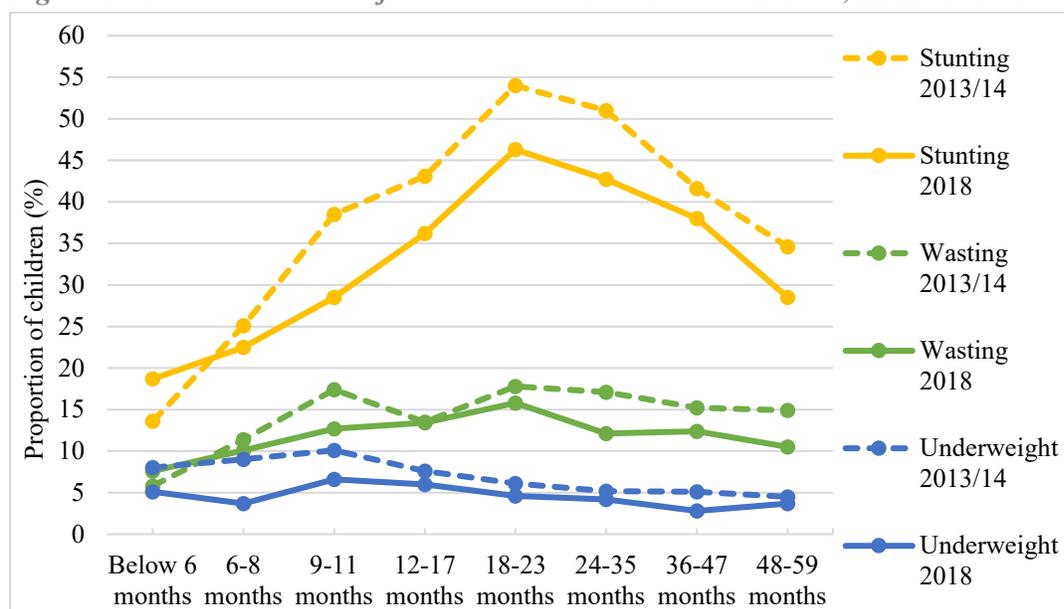
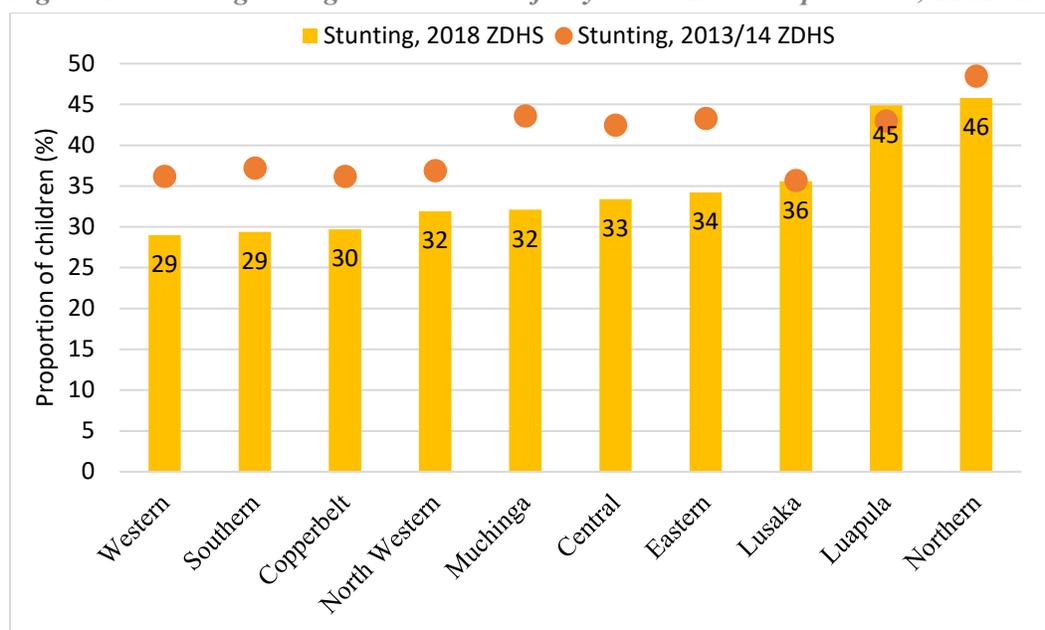
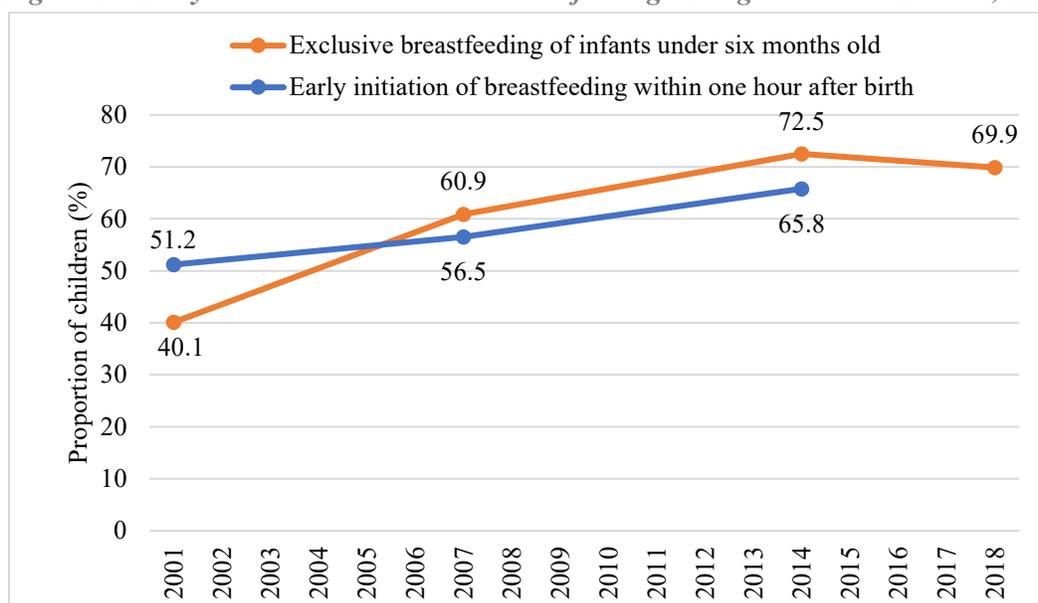


Figure 17: Stunting among children under five years in Zambian provinces, ZDHS 2013/14 & 2018



Early initiation of breastfeeding within the first hour increased from 51.2% in 2001 to 56.5% in 2007 and 65.8% in 2013/14 as shown in Figure 18 below (data on early initiation of breastfeeding was not available in the 2018 ZDHS preliminary report). Exclusive breastfeeding in the first six months increased from 51.2% in 2001 to 73% in 2013/14 then declined somewhat to 70% by 2018 as shown in Figure 18 below. Indicators of infant and young child feeding practices showed no real improvement between 2013/14 and 2018 ZDHS surveys as the proportion of children receiving the minimum acceptable diet increased slightly from 11% to 12%.

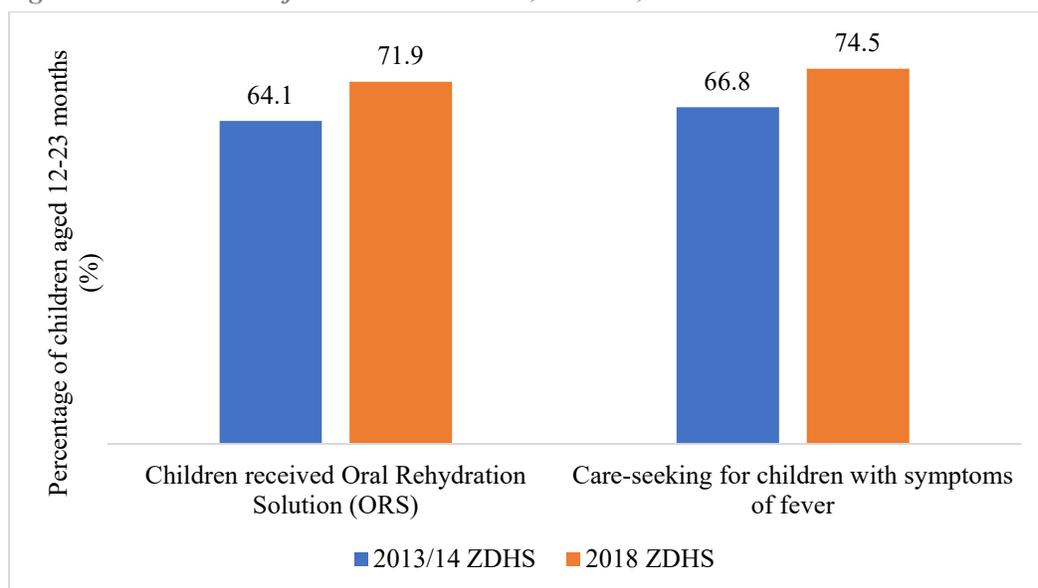
Figure 18: Early initiation and exclusive breastfeeding among children in Zambia, ZDHS 2001-2018



Treatment of Childhood Illnesses

By 2018, 67% of children with diarrhoea were receiving treatment with an oral rehydration salt (ORS) packet, which is a three percent improvement from the 2013/14 baseline. Care-seeking by providers when children presented symptoms of fever also increased from 71.9% in 2013/12 to 74.5% in 2018 as shown in Figure 19 below.

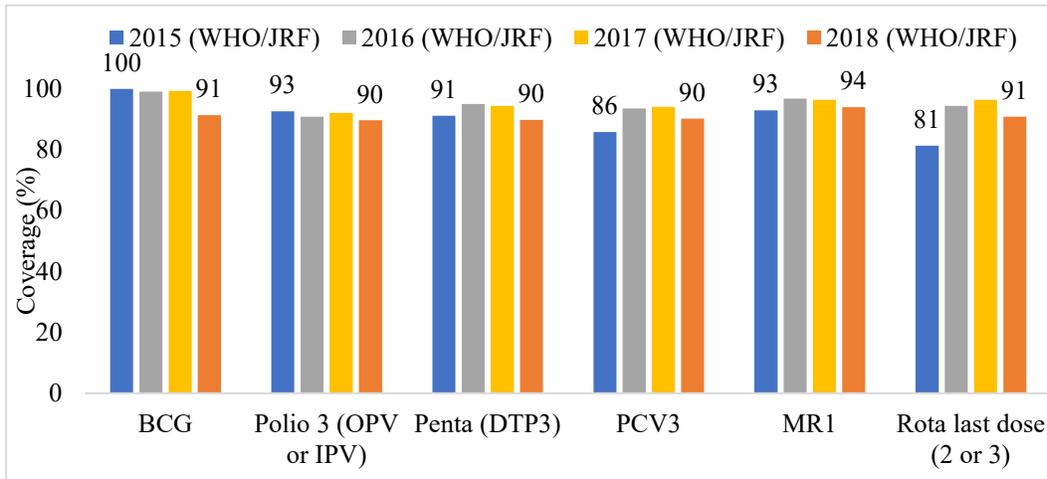
Figure 19: Treatment of childhood illnesses, Zambia, ZDHS 2013/14 & 2018



Immunization of Children

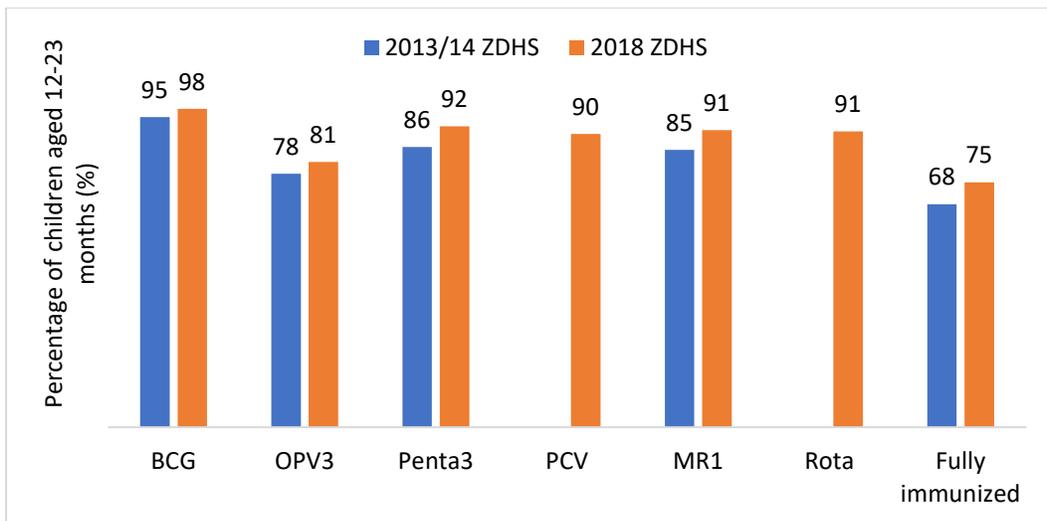
As at 2018, childhood immunization coverage in the country was above 90% for all routine vaccines – based on the 2018 WHO/JRF survey. *Figure 20* below shows the trends in immunization coverage of routine vaccines based on WHO/JRF surveys done from 2015-2018.

Figure 20: Routine immunization coverage among infants in Zambia, WHO/JRF surveys 2015-2018



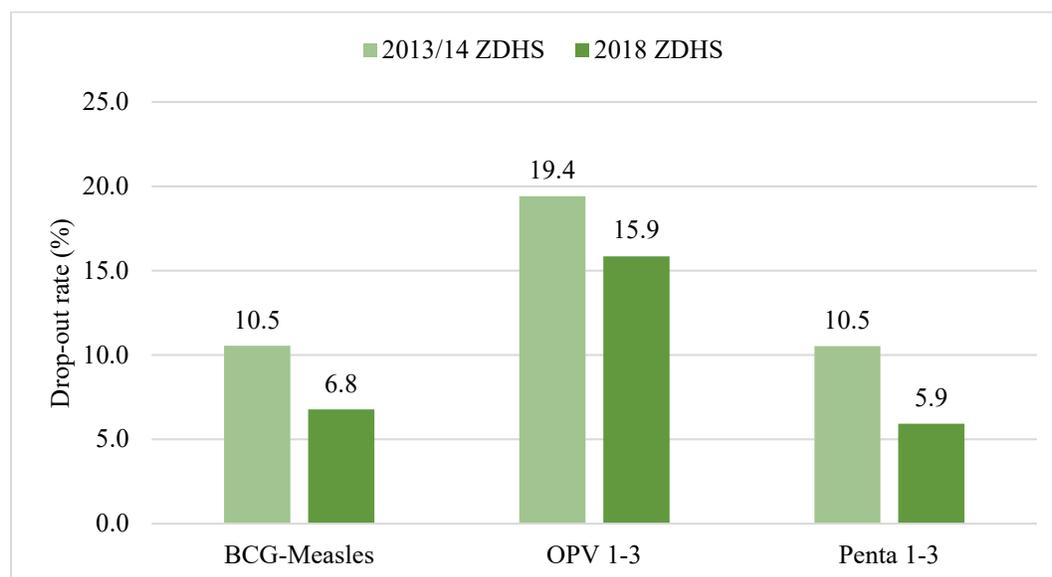
Based on ZDHS 2013/14 and ZDHS 2018 data, the proportion of children fully immunized increased from 68.3 to 75%. The data also showed a positive trend for individual antigens as shown in *Figure 21* below. All the vaccines used as indicators for immunization coverage have achieved the 2018 target except OPV *Table 5*

Figure 21: Coverage of routine vaccines among children aged 12-23 months in Zambia, ZDHS 2013/14 & 2018



Drop-out rate for the antigens selected by the NHSP M & E framework has generally reduced as shown in *Figure 22* below. The reduction in drop-out rates for the selected vaccines was based on ZDHS 2013/14 and ZDHS 2018 data and the reduction was as follows: 10.5% - 6.8% for BCG vaccine dose, 19.4% - 15.9% for OPV1 – 3 vaccine dose, and 10.5% - 5.9% for Penta 1 – 3 vaccine dose.

Figure 22: Vaccine drop-out rates for selected antigens in the NHSP M & E framework, ZDHS 2013/14 & 2018



Adolescent Health

On adolescent health, the NHSP set out to provide a minimum adolescent health services platform in all districts, increase adolescents' awareness of the available adolescent health services from 13.5% (average) to 60%, and strengthen the leadership & governance of an adolescent-responsive health system in 60% of the districts by 2021.

Key findings at mid-term:

- The birth rate for adolescent girls aged 15-19 years declined somewhat between 2013/14 and 2018 (from 141 to 135 per 1,000 adolescent girls), almost reaching the 2018 target of 133.
- The proportion of young women aged 20-24 who were married by age 18 was over 30% in the 2013/14 ZDHS.
- The HIV prevalence rates among adolescents aged 15-19 years did not change greatly from 2016 to 2018, and prevalence remained to be twice as many girls as boys.
- The proportion of adolescents with comprehensive knowledge of HIV prevention has not changed much since 2013/14 and it is much lower than the target. Additionally, comprehensive knowledge of HIV has slightly increased among females while decreasing among males.
- There were six additional districts which having the minimum Adolescent Health Package.

Table 6 below summarizes performance for the key adolescent health indicators outlined in the NHSP.

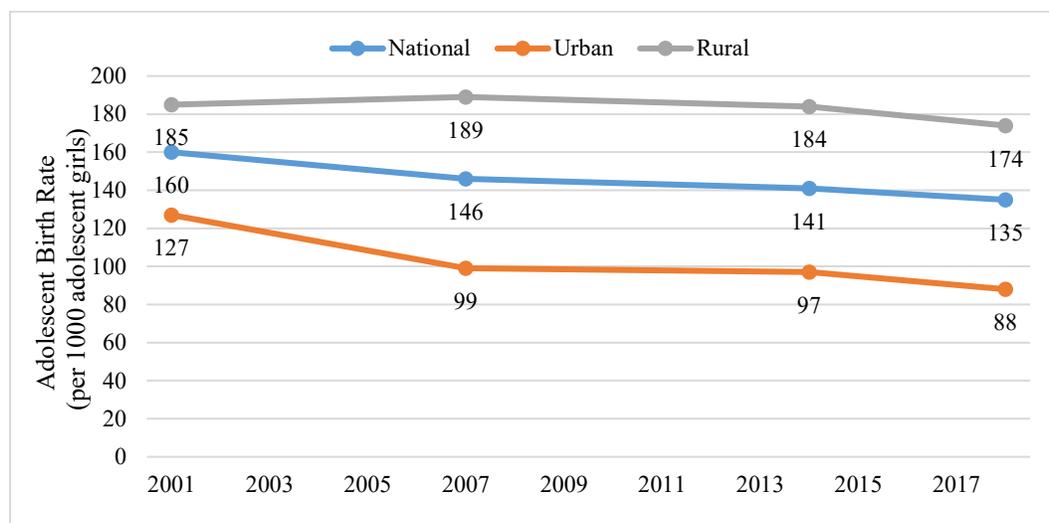
Table 6: Summary of performance for key adolescent health indicators

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Adolescent Health				
Adolescent birth rate per 1,000	141 (2013/14 ZDHS)	133	135 (2018 ZDHS Preliminary findings)	Slight reduction.
HIV prevalence among Adolescents	Overall: 2.5, Male: 1.6% Female: 3.3% (15-19 yrs, ZAMPHIA 2016) 0.9 (10-14 yrs, 2016 ZAMPHIA)	N/A	Male: 1.2%; Female: 2.6% (15-19 years, ZDHS 2018 preliminary findings)	Preliminary data from ZDHS 2018 suggests slight reduction HIV prevalence.
Percentage of districts with minimum adolescent health package	42 (Programmes report)	N/A	48 (Programmes report)	
Percentage of adolescents with comprehensive right knowledge of HIV prevention	Male – 39 Female – 42 Overall – 39.5 (2013/14 ZDHS)	60	Male – 41 Female – 43 Overall - 42 (2018 ZDHS Preliminary findings)	Young people age group used (15-24 years). Minimal progress made.
Percentage of women aged 20–24 who were married or in a union before age 15 and before age 18	Before 15: 5.9 Before 18: 31.4 (2013/14 ZDHS)	N/A	N/A	Data not provided in 2018 ZDHS report.

Adolescent Birth Rate

The adolescent birth rate per 1,000 adolescent girls aged 15-19 years has declined over time as shown in Figure 23 below. Adolescent birth rate was consistently higher in rural than in urban areas, with the rates declining more between 2013/14 and 2018 period when compared to previous years.

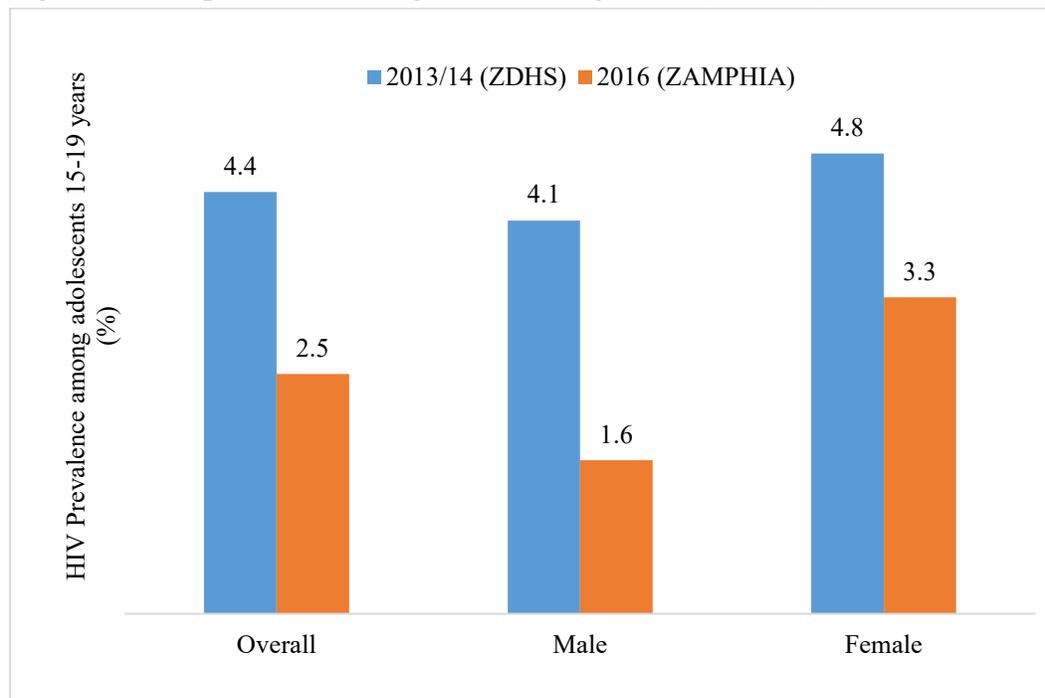
Figure 23: Adolescent birth rate (per 1,000 adolescent girls) in national, urban & rural Zambia, ZDHS 2001-2018



HIV Prevalence among Adolescents

HIV prevalence remained notably higher among adolescent girls than boys over time as shown in *Figure 24* below. Further, a comparison of ZDHS 2013/14, ZAMPHIA 2016 and preliminary 2018 ZDHS findings show that HIV prevalence among adolescents has been reducing.

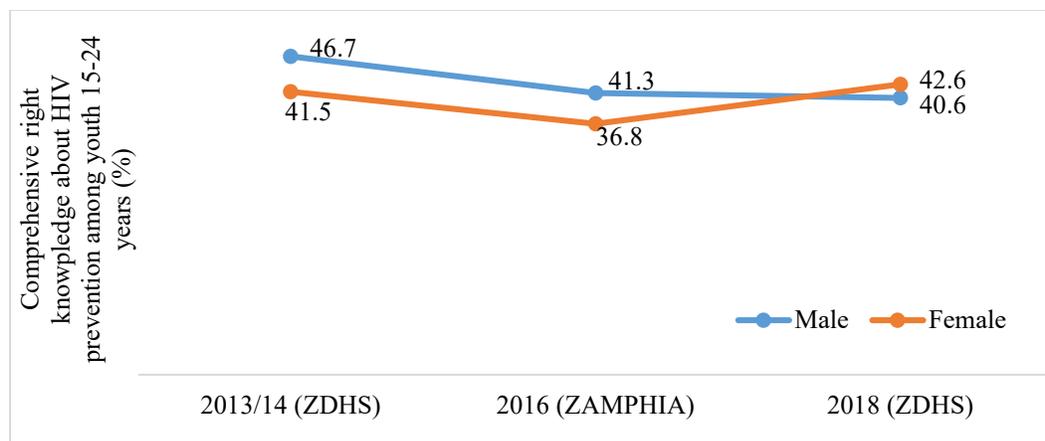
Figure 24: HIV prevalence among adolescents aged 15-19, Zambia, ZDHS 2013/14 & ZAMPHIA 2016



HIV Knowledge among Adolescents

Between 2013 and 2018, the proportion of youth with comprehensive HIV knowledge declined from 46.7% to 42.6% among males but increased slightly from 41.5% to 42.6% among females. *Figure 25* below shows the trend of comprehensive HIV knowledge among adolescent boys and girls in the 2013-2018 period.

Figure 25: Proportion of youth aged 15-24 years with comprehensive right knowledge of HIV Prevention in Zambia



Gender-Based Violence (GBV) and Child Sexual Assault (CSA) Health Services

Key findings at mid-term:

- Very little data exists on GBV and CSA in Zambia. It is likely that the number of cases reported are far less than the number of actual cases occurring. Knowing the characteristics of GBV and CSA in our setting would aid early identification and intervention.
- In 2015, only 601 people in Zambia were reported to have received PEP following sexual assault.
- Of the 1351 children that were reported to have been sexually abused in 2018, only 611 received post-exposure prophylaxis (PEP).

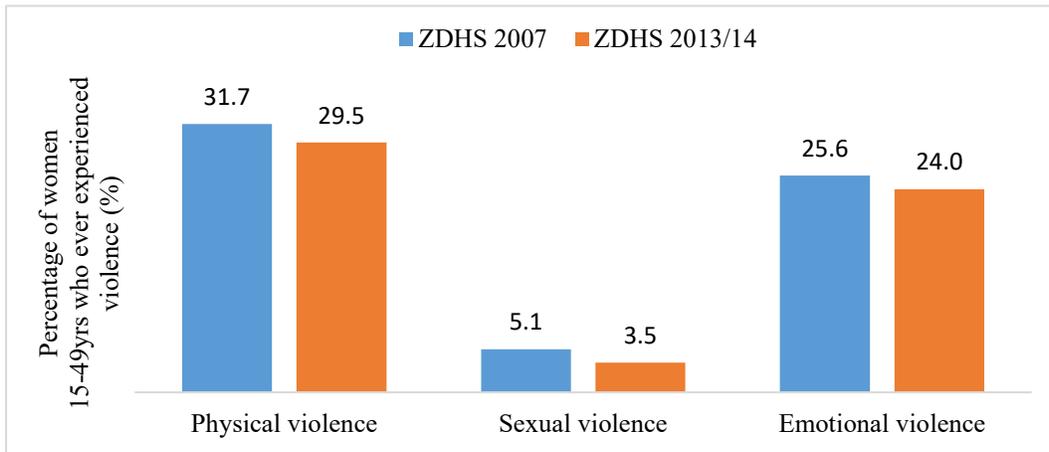
Table 7 below presents a summary of achievements in the key GBV and CSA indicators outlined in the NHSP.

Table 7: Summary of achievements in key GBV and CSA indicators

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Gender-Based Violence and Child Sexual Abuse				
Proportion of individuals seeking PEP as a result of sexual assault		N/A	601 (2015, World Vision Zambia)	No baseline.
Number of children seeking health services as a result of sexual violence at a given period	3790 (HIA 2, 2016; UTH PCOE, 2016)	N/A	1565 (HIA 2, 2018; UTH PCOE, 2018)	Huge disparity in the figures from HIA 2 for 2018.

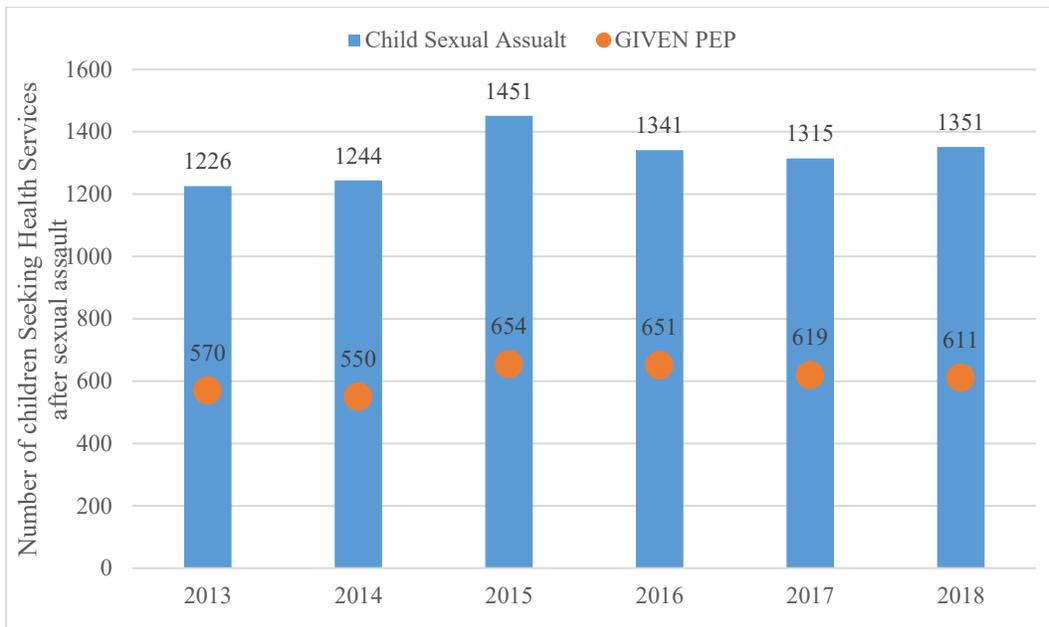
Figure 26 below shows the proportion of women that have experienced different forms of violence based on ZDHS 2007 and ZDHS 2013/14. Comparing ZDHS 2013/14 to the ZDHS 2007 survey, the proportion of women experiencing different forms of violence has gone down slightly. From the surveys, nearly 30% of women reported to ever have experienced physical violence, 4% experienced sexual violence, 14% experienced both and 50% experienced either form of violence. A quarter of women also reported have ever experienced emotional violence.

Figure 26: Proportion of women aged 15-49 years who have ever experienced physical, sexual or emotional violence



The number of children reported to have been sexually abused increased between 2013 and 2015 from 1226 to 1451 respectively, declined from 2016 (1341) to 2017 (1315), then increased to 1351 in 2018. Between 2013 and 2018, the number of children receiving PEP was much lower and less than half of the number reporting CSA as shown in *Figure 27* below.

Figure 27: Number of children seeking health services after sexual abuse



Source:

Recommendations on Reproductive, Maternal, New-Born, Child and Adolescent Health

To maintain and improve upon progress made on reproductive, maternal, new-born, child and adolescent health, the following recommendations should be implemented for the remaining NHSP period:

- Incorporate home-based post-natal care visits by community health assistants (CHAs) and community-based volunteers (CBVs) that will assist and advise mothers on how to take care of neonates
- Encourage mothers to practice exclusive breastfeeding for the first six months of an infant
- Pregnant women and mothers to under-fives should be educated on how to attain the required nutrition based on their economic status. This will in turn reduce the number of stunted and underweight children in Zambia
- With the low numbers of children seeking health services after sexual violence, community health units and CHAs should be strengthened for capturing cases of cases of physical violence and sexual abuse of children

Communicable Disease Control

Malaria Control

The NHSP set out to eliminate malaria infection and disease in Zambia by 2021 through ensuring universal access to malaria prevention and treatment services. The plan further sought to strengthen surveillance, research and M&E systems to ensure timely availability of quality, consistent, and relevant data to guide policy and decision making. The NHSP M & E framework had seven key malaria indicators that can be broadly categorized in to two: malaria epidemiology and malaria interventions.

Key findings at mid-term:

- Malaria incidence per 1000 population reduced from 374 in the 2017 to 312 in 2018 while malaria mortality decreased from 15.2 to 7 per 100,000 population during 2015-2018. However major difference in malaria control still exist across provinces.
- By 2018, 96% of the malaria diagnoses in health facilities were lab confirmed. This is a major improvement compared to previous years (83% in 2016 and 91% in 2017).
- The proportion of malaria diagnoses that were children under 5 years declined from 38% in 2015 to 31% in 2018
- There was a major decline in malaria parasite prevalence among children 6-59 months (diagnosed by blood slide and microscopy) from 17% in 2015 to 9% in 2018
- 4 out of the 7 NHSP M & E framework indicators have been achieved as at 2018 due to increased coverage of malaria interventions.
-

Table 8 below summarizes health sector performance of the key malaria indicators outlined in the NHSP M & E framework as at 2018.

Table 8: Summary of performance for key malaria indicators

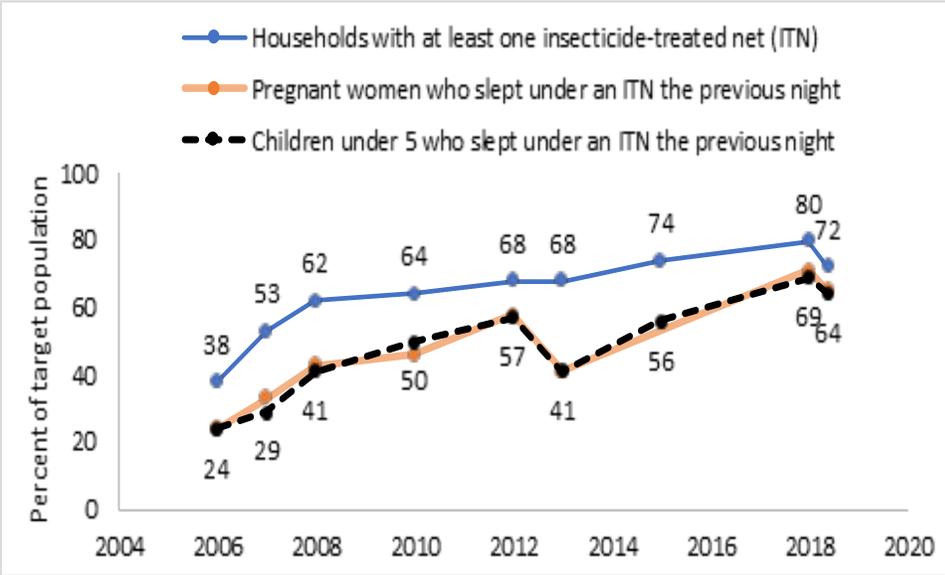
Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
Malaria				
Malaria mortality rate per 100,000 population	15.5 (HMIS 2016)	13.3	7	Baseline was adjusted with new data; decline, target achieved based on health facility data.
Malaria incidence per 1,000 population	336 (HMIS 2015)	168	312 (2018 HMIS)	No major decline, large differences by province.
Prevalence of malaria parasitemia (6–59 months)	17% (ZMIS 2015)	9.0%	9.1% (ZMIS 2018)	Major decline since 2018, in all provinces.
Slept under LLITN previous night: all pregnant women (PW) 15–49, children under 5 years) (%)	All: 55% PW: 58.2% Under5: 59.0% (ZMIS 2015)	All 73.0% PW 74.9% Under-5 75.4%	All: 63.6% PW: 71.1% Under-5: 69.0% (ZMIS 2018)	Good progress during 2015-2018, but short of 2018 target.

Proportion of treated malaria cases that were lab confirmed	83% (HMIS 2016)		96%	Nearly all cases now lab confirmed.
IPT3 dose to pregnant women (%)	44.7% (ZMIS 2015)		67.3% (ZMIS 2018)	Major increase while IPT2 remained at about 80%.
IRS: percent of households reached in past 12 months	28% (2015 ZMIS)	57.4%	35% (ZMIS 2018)	Increase in coverage by one-fifth, but far off 2018 target.

Malaria interventions

Figure 28 below shows the trend in insecticide-treated net (ITN) ownership and use in Zambia. The data is based on both malaria indicator surveys (2006, 2008, 2010, 2012, 2015 & 2018) and ZDHS surveys (2007, 2013/14 & 2018). ZDHS 2018 reported lower figures than the malaria indicator survey (MIS) of 2018 for the same malaria indicators. The trends of insecticide-treated net (ITN) ownership and use as shown in Figure 28 below show a continuing gradual increase in household ownership of ITNs. The proportion of children and pregnant women sleeping under an ITN also showed a general increase.

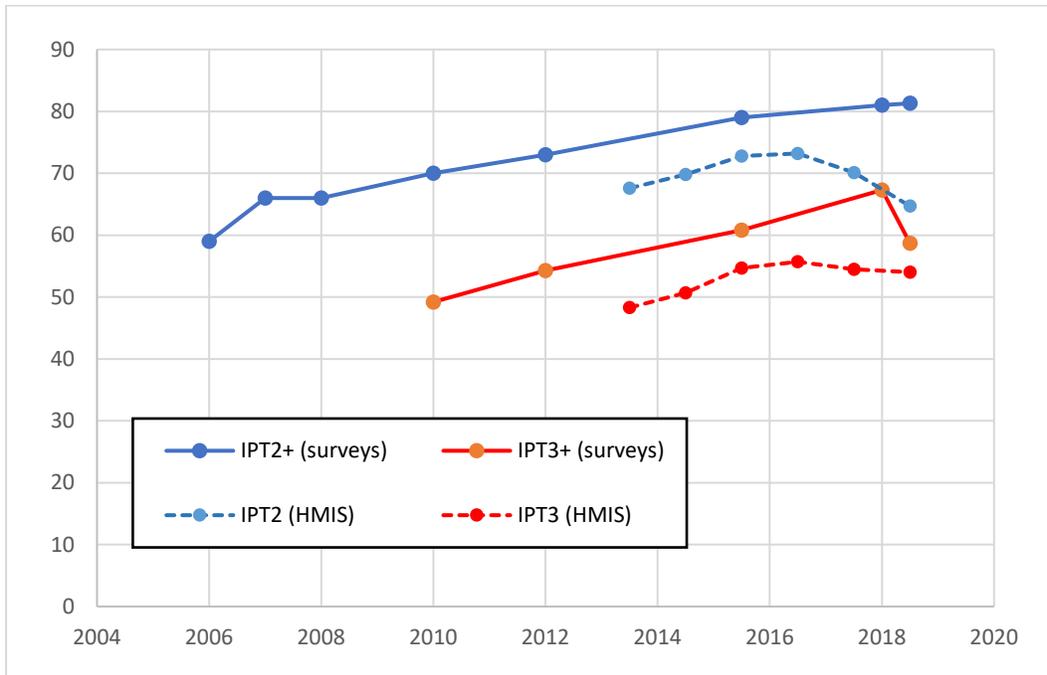
Figure 28: Insecticide-treated net use among children under five years and pregnant women in Zambia, Malaria Indicator Surveys 2006-2018 & ZDHS 2018



Intermittent preventive therapy (IPT) for malaria aims for three doses of sulphadoxine-pyrimethamine (SP) during pregnancy. IPT coverage estimates based on HMIS data were slightly lower than those obtained from surveys, and the trend of HMIS data from 2016 shows a decline for IPT2 while household surveys indicated a gradual increase in IPT2 (Figure 29 Error! Reference source not found.). Similarly, HMIS data shows flattening for IPT3 coverage beyond 2016 whereas household surveys show an increase that is followed by a sharp decrease of IPT3 coverage. Underreporting of IPT or overreporting of ANC in the HMIS is a likely cause of HMIS data showing different trends from national surveys data (HMIS data

used the first ANC visit as the denominator, with an adjustment for the proportion of women not attending ANC).

Figure 29: Coverage of IPT doses among pregnant women, national surveys 2006-2017 & HMIS 2013-2018

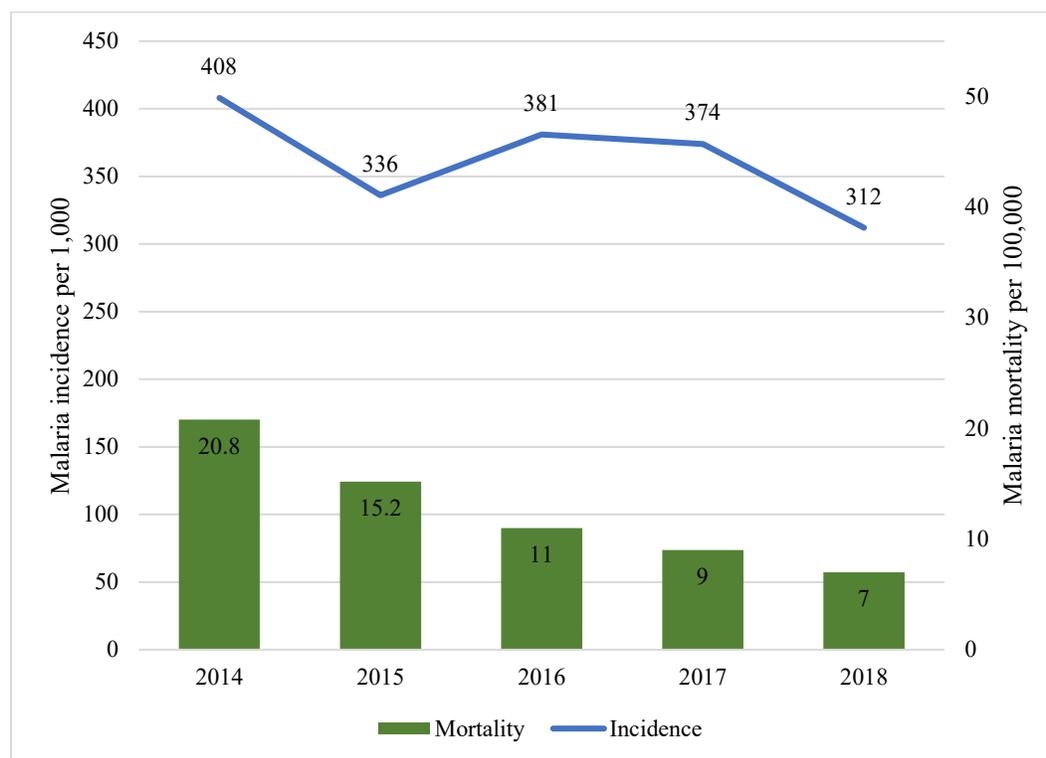


Malaria epidemiology

The malaria incidence decreased from the 2015 baseline of 336 per 1,000 population to 312 per 1,000 population in 2018 (*Figure 30*). This is however not a major decline in malaria incidence given that the 2018 target was 168 per 1,000 population. Reduction in malaria prevalence from 17% to 9% among children aged 6 – 59 months during the 2015-2018 period as reported in population-based surveys was however a major decline. Malaria mortality decreased from 15.2 to 7 per 100,000 population between 2015 and 2018 based on the health facility deaths (*Figure 30*)

The reduction in Malaria incidence and mortality was explained by respondents in Stream 3 data collection. The interview respondents attributed the reduction in malaria incidence and mortality to factors such as: increase in the use of ITN, increased coverage with IPT3 & indoor residual spray (IRS), diagnostic testing by blood slide or rapid test in children, and use of Artemisinin combination therapy (ACT) for treatment of malaria. The training and use of community health malaria agents to test and treat malaria in the communities as well as offering on-site training and mentorship on management and treatment of malaria offer additional explanation for the reduction in malaria incidence and mortality. Additionally, improved coordination of malaria control interventions in the districts was registered over the review period through the work of Malaria Technical Working Groups in the districts. The quarterly visits to lower levels were instrumental in improving implementation.

Figure 30: Malaria incidence per 1,000 population and mortality per 100,000 population, HMIS 2014-2018



Outstanding challenges

Significant achievements notwithstanding, the following challenges merit attention in order to sustain gains in malaria control:

- Inadequate funding to ensure full implementation of the National Malaria Elimination Strategic Plan (NMESP),
- Timeliness of implementation of keys interventions e.g. indoor residual spray (IRS),
- High refusal rates for indoor residual sprays and new pesticides,
- Inconsistent utilization of ITNs,
- Erratic and inadequate supply of rapid diagnostic test kits, slides and anti-malaria drugs,
- Lack of National Reference Laboratory,
- Insecticide resistance,
- Drug resistance, and
- Dependence on partners for malaria management.

HIV/AIDS Control

The NHSP aims to reduce new HIV infections & AIDS-related mortality by 75%, and reduce HIV-related stigma & discrimination to zero by 2021. This will be achieved through ensuring healthy lives and promoting well-being across all ages. The NHSP identified 11 key indicators for monitoring HIV/AIDS control that cover HIV/AIDS epidemiology as well as its management.

Key findings at mid-term:

- There has been a long-term trend towards reduction in HIV/AIDS mortality (-37% since 2010) and to a lesser extent HIV incidence (-13% since 2010). However, HIV incidence is still significant with nearly 50,000 new infections every year and 1.2 million living with HIV in 2018.
- Coverage of ART increased to 83% (HMIS data) in 2018 due to more widespread HIV testing since 2017 and more rapid initiation of treatment. However, with reference to the baseline, viral load suppression among all people living with HIV dropped by 3 percentage points to 86.3% in 2018.
- PMTCT is universal and almost 9,000 new infections are averted every year.
- The indicators on sexual behaviors that prevent HIV/AIDS and STI transmission showed little progress except for VMMC.
- Only 3 out of the 11 mid-term targets for HIV/AIDS control were achieved, and 3 indicators had no data
- Knowledge of HIV/AIDS prevention among 15 – 19 year-olds remains low.

Table 9 below summarizes the performance of key HIV/AIDS control indicators as outlined in the NHSP M & E framework.

Table 9: Summary of performance for key HIV/AIDS indicators

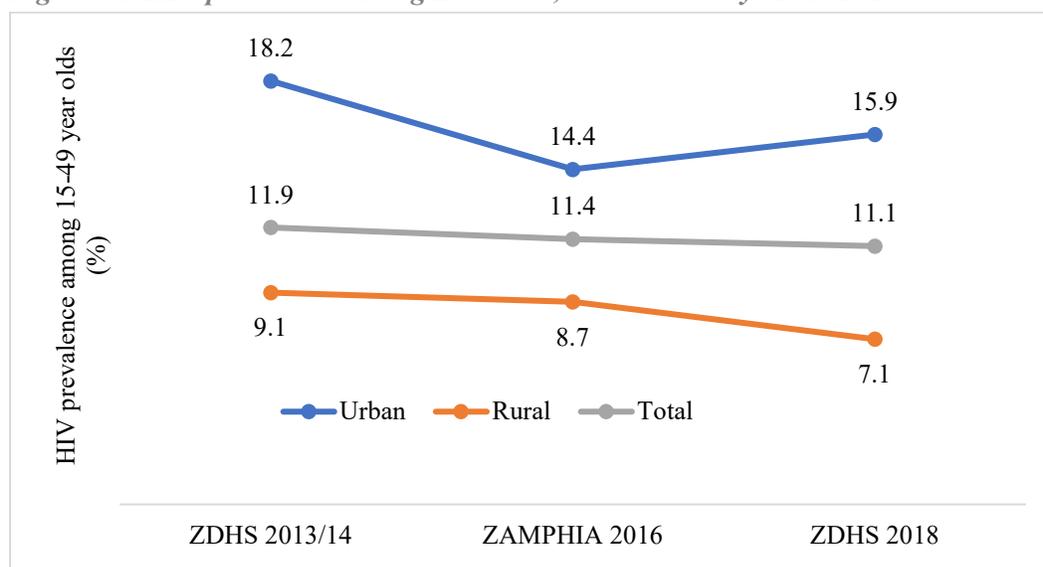
Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
HIV/AIDS				
HIV deaths per 100,000 population	126 (HMIS, 2016)	110	N/A	
HIV incidence per 1,000 population	6.1 (2016, ZAMPHIA)	0.5	N/A	Only UNAIDS/Spectrum predicted estimates available.
HIV prevalence among 15-59 years	12.0% (2016, ZAMPHIA, 15-59 years)	10.0%	11.1% (ZDHS 2018, 15-49 years)	% HIV prevalence in 15-59yrs is slightly higher than in 15-49yrs; no decline.
ART coverage among eligible persons living with HIV infection (M/F)	85.1% 86.2% (M) 84.4% (F) (ZAMPHIA 2016)	87.1% 87.7% (M) 86.6% (F)	92% (HMIS Q2 2019) 84% (COP Q3 2018)	Indicator refers to those who have been diagnosed, not coverage; progress according to HMIS.

Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
Viral load suppression among PLHIV	89.2% (All) 87.7% (M) 90.1% (F)	89.5% 88.6% (M) 90.1% (F)	86.3% (HMIS Oct18- Sep19); 88% (COP Q3 2018)	Only data for both sexes was available; viral load suppression was just short of target and baseline.
ART retention at 12 months	75% (HMIS 2015)	78%	N/A	No data.
HIV-positive women receiving ART for PMTCT	65% (NACP, 2012)	90% by 2017 (NACP)	>90% (UNAIDS) 88.5% HMIS 2018	
PMTCT: children testing positive within 18 months	5.0% (HMIS 2016)	3.4%	3.8% (HMIS 2018)	Good progress but short of target.
Awareness of HIV positive status among 15-59 years	71% 69% (M) 73% (F) (ZAMPHIA 2016)	75.7% 73.4% (M) 77.0% (F)	90% (HMIS, Q2 2019)	Baseline corrected with ZAMPHIA data. Target achieved by 2019.
Condom use at last sex among those with 2+ partners in last year	27.4% (M, 15-59) 29.7% (F, 15-49) (ZDHS 2013/14)	50% (M) 50% (F)	26.5% (M) 38.2% (F) (ZDHS 2018)	No progress for men Progress not sufficient for women to reach target.
Knowledge of HIV among 15-19 years	39.5% (ZDHS 2013/14)	60%	39.5% (ZDHS 2018)	Knowledge of four prevention methods; no progress made

HIV/AIDS Epidemiology

HIV prevalence in Zambia has been declining and when compared against the 2015 baseline, decline of HIV prevalence in 2018 was very marginal (*Figure 31*). Based on UNAIDS modeling with Spectrum, the estimated number of deaths due to HIV in 2018 was 17,000 (uncertainty range 13,000-22,000) against 18,000 in 2015 and 16,000 in 2017, and the number of people living with HIV in Zambia as at 2018 was estimated at 1.2 million (uncertainty range 1.1-1.4 million) - including 48,000 children.

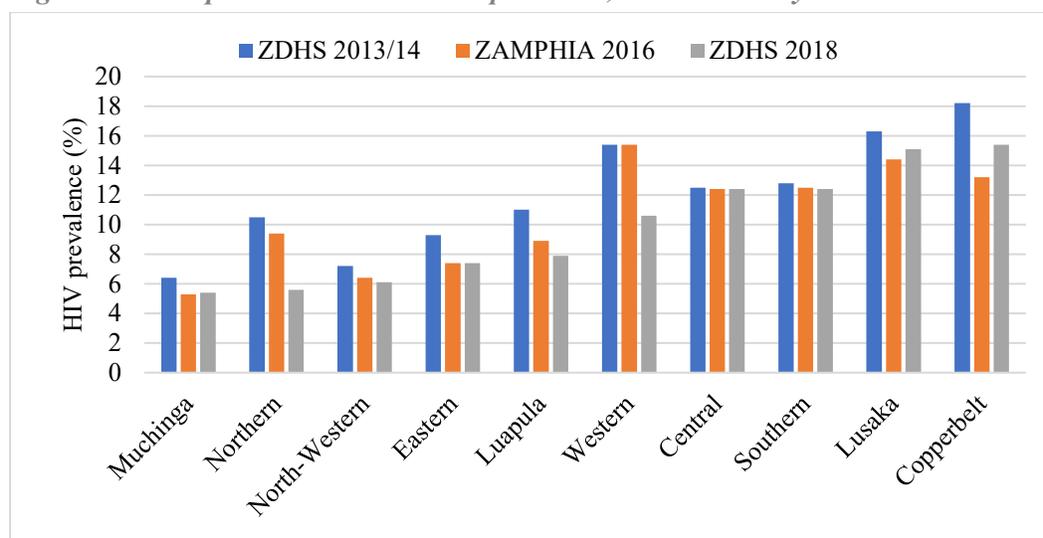
Figure 31: HIV prevalence among Zambians, national surveys 2013-2018



The female to male HIV prevalence ratio increased from 1.3 in 2013/14 to 1.7 in 2016 and 1.9 in 2018. The age patterns are however changing; HIV prevalence is increasing with age and no longer peaks at ages 25-34 years for women or 35-44 years for men. Antiretroviral therapy (ART) is presumably the main cause of this change.

The provincial picture of HIV prevalence has been consistent over time with little change in the ranking of provinces (Figure 32). By 2018, HIV prevalence of both sexes was about 15% in the two most urbanized provinces – Lusaka and Copperbelt – and about 5% in the three most northern provinces of Muchinga, Northern and North-Western. Changes between 2016 and 2018 were modest in all provinces except Northern and Western provinces where major declines were observed. (It’s worth noting though that sampling errors during the surveys are quite large at the provincial level.)

Figure 32: HIV prevalence in Zambian provinces, national surveys 2013-2018



Knowledge of four HIV prevention methods among adolescents aged 15-19 years was 40.5% among girls and 38.6% among boys based on ZDHS 2018. Comparing this against the 2013/14 baseline of 39.5%, this meant that no much progress was made on dissemination of knowledge about HIV prevention. Similarly,

condom use at last sex among women with two or more partners as an HIV prevention method did not make much progress and fell short of the 50% NHSP target (*Table 9*).

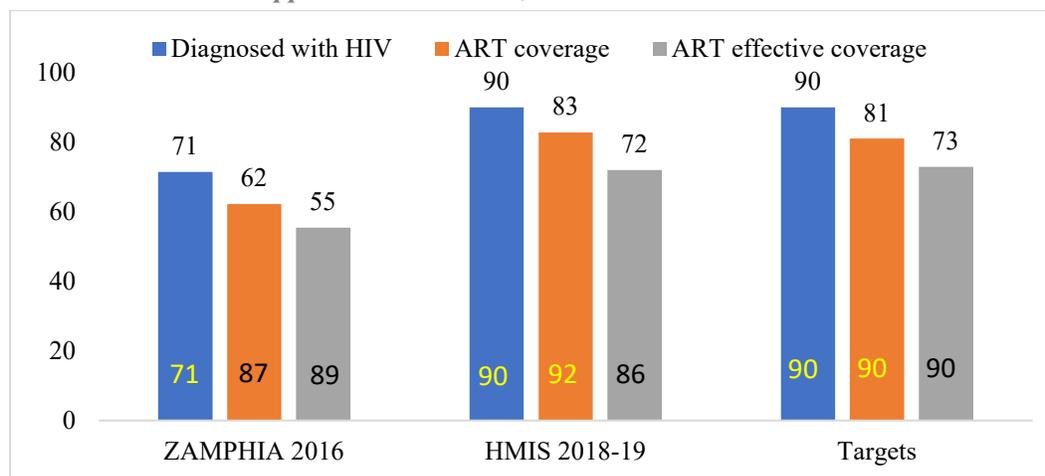
The voluntary medical male circumcision (VMMC) program reported increasing numbers over time and achieved midterm NHSP target of 392,000. There were 225,000 male circumcisions in 2015, 312,000 in 2016, 485,000 in 2017 and 431,000 in 2018. Six of the ten provinces are on track towards achieving their province-specific male circumcision targets for 2020 (Lusaka, Muchinga, Northern and Central provinces are not on track).

HIV/AIDS Management

Overall, there has been a reduction in stigmatization and positivity rate for HIV. The number of people initiating treatment increased dramatically during the NHSP period due to the test-and-treat policy (about 100,000 people initiated treatment in 2015/2016, 173,000 in 2017 and 226,000 in 2018). The ART Treatment coverage among people aged 15-59 years living with HIV is also high and increased from 62% (ZAMPHIA 2016) to 83% based on HMIS 2018 data, and over 95% according to the 2018 UNAIDS statistical summary. With this level of ART coverage, the country is still on track to reach the global 90-90-90 target.

Viral load suppression for the October 2018-September 2019 period was 86%(HMIS), and is just slightly lower than in ZAMPHIA 2016 (89%). The COP figures for Q3 2018 were similar - 88% of persons 15+ years who are on ART were virally suppressed. Viral load suppression was high in all provinces, ranging from 81% in Western province to 90% in Eastern province. *Figure 33* below summarizes HIV diagnosis, ART coverage and viral load suppression in Zambia.

Figure 33: Proportion of people with HIV that are aware of their HIV status, are on ART treatment and have viral load suppression in Zambia, ZAMPHIA 2016 & HMIS 2018/19



Prevention of mother-to-child transmission (PMTCT) is currently universally accessible in the country and improvements HIV testing have supported PMTCT. As shown in *Table 9* above, 88.5% of pregnant women newly diagnosed with HIV received ART in 2018 against the 2012 baseline of 65% (NACP). This contributed to the reduction in the proportion of newborns who were HIV positive at 18 months (from 5% in 2016 to 3.8% in 2018), though the 2018 achievement was short of the NHSP 2018 target of 3.4%.

Qualitative Findings on HIV management

All facilities reported to have a good supply of ARV drugs rated at over 90% as well as availability of HIV self-test kits. Adherence to HIV treatment was also good, with community adherence groups being reported to have helped improve adherence to antiretroviral therapy. A good example is Sinda Health Centre that reported of having 95% of their patients not only being on ARV treatment but also having attained viral load suppression.

Several approaches are being employed to monitor viral load suppression and they include: hospitals having a virology unit or CD4 machine, use of riders to move around in the community collecting viral load samples, collecting dried blood spots in facilities and transporting them to a well-equipped laboratory, and facilitation of transition to the TLD drug regimen of ARVs at community level.

Outstanding Challenges

Outstanding challenges include:

- Rising HIV incidence among adolescents and young women,
- Rising Incidence of HIV in other key populations,
- High HIV conversion rate of HIV-exposed infants (HEI) at 18months,
- Sero-conversion during pregnancy and the post-natal period,
- Erratic supply of HIV testing kits,
- Some structures lack the required privacy for HIV testing and counselling,
- Inadequate number of personnel trained on HIV testing, counselling and case management,
- Collection of viral load samples from all eligible clients and transportation of specimen to a well-equipped laboratory, and,
- Power outages affected the functioning of CD4 machines.

Tuberculosis (TB) Control

The NHSP had a number of TB-related goals and the key ones were: to increase the notification of new TB cases from 36,700 in 2015 to at least 59,000 by 2021, increase treatment success rate from 87% to at least 90% from 2018 onwards, and to achieve 100% HIV testing of notified TB patients by 2018. The NHSP M & E framework established 7 indicators that spanned from TB diagnosis to treatment.

Key findings at mid-term:

- Most TB indicators have progressed positively during NHSP. These include: declining TB incidence & notification rates; high TB treatment success rates (90%), increasing treatment success rates among MDR-TB patients and nearly all TB/HIV+ patients being on ART.
- Effective coverage of TB treatment has remained low (52%) as TB case detection/treatment coverage rates did not increase and were still below 60%.
- Annual TB notification rates have been declining from 269/100,000 in 2015 to 213/100,000 in 2018. However, there is marked variability in TB notification rates by province
- Health worker stigma against offering services to TB patients still exists thus health worker shortage for TB services in facilities

Table 10 below summaries the mid-term performance of key TB Control indicators in the NHSP M & E framework.

Table 10: Summary of performance for key TB control indicators

Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
Tuberculosis				
TB incidence rate / TB cases per 100,000	391 (2015, WHO)	335	346 (2018, WHO)	Incidence rates estimated by WHO.
TB death rate per 100,000 population	115 (WHO)	115	102 (WHO)	Death rates estimated by WHO.
TB notification rate (per 100,000 population)	231	N/A	202	Substantial decline.
TB treatment coverage / case detection per 100 incidence case	59.3%	N/A	58.5%	No progress, major impact on effective coverage.
TB treatment cure rate (success rate)	84% (HMIS, 2015)	86%	90% (HMIS 2018)	Target surpassed in 2018, but effective coverage not progressing.
Multi-drug resistance: successfully treated cases (%)	30% (HMIS, 2015)	65% (2018)	71% (2016 cases)	Target surpassed.
TB/HIV patients on ART (%)	76% (HMIS, 2015)	77%	91% (2018 HMIS)	Target surpassed.

TB epidemiology

TB incidence has experienced a major long-term decline that continued into the NHSP 2017-2021 period. By 2018, incidence was estimated at 60,000 new TB cases (uncertainty range 39,000-86,000) or 346 new TB cases per 100,000 population. This was a decline from the 2015 estimate of 391 new TB cases per 100,000 population. *Figure 34* below illustrates the long-term trend in reduction of TB incidence and the uncertainty range based on WHO 2000-2018 data.

Annual TB notification rates have been declining from 269/100,000 in 2015 to 213/100,000 in 2018. There is marked variability in TB notification rates by province as shown in *Figure 35*. Lusaka province has by far the highest notification rate, followed at a distance by the Copperbelt province. At the lower end, Northern, Eastern and Muchinga provinces have TB notification rates that are less than a quarter of that of Lusaka province. In almost all provinces the notification rates declined during 2015-18 period with the exception of Northwestern and Luapula provinces.

Figure 34: TB Incidence per 100,000 population in Zambia, WHO 2000-2018

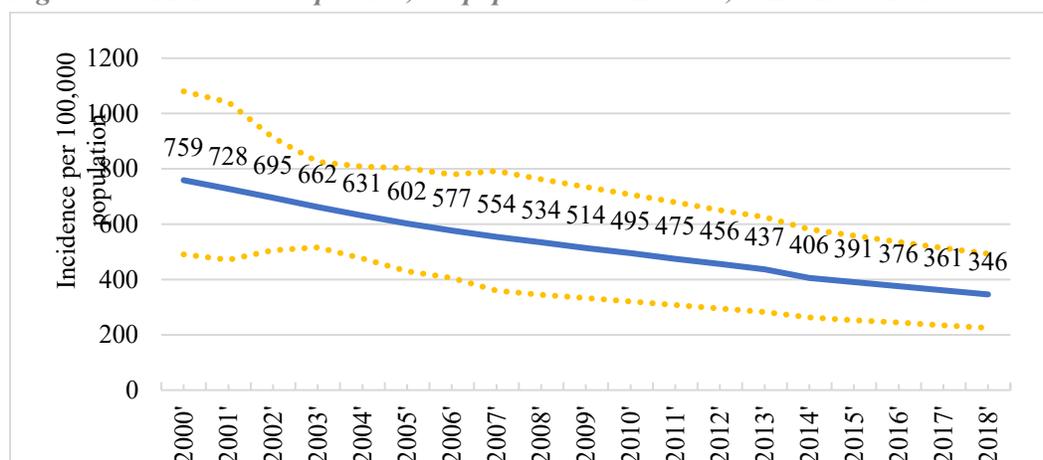
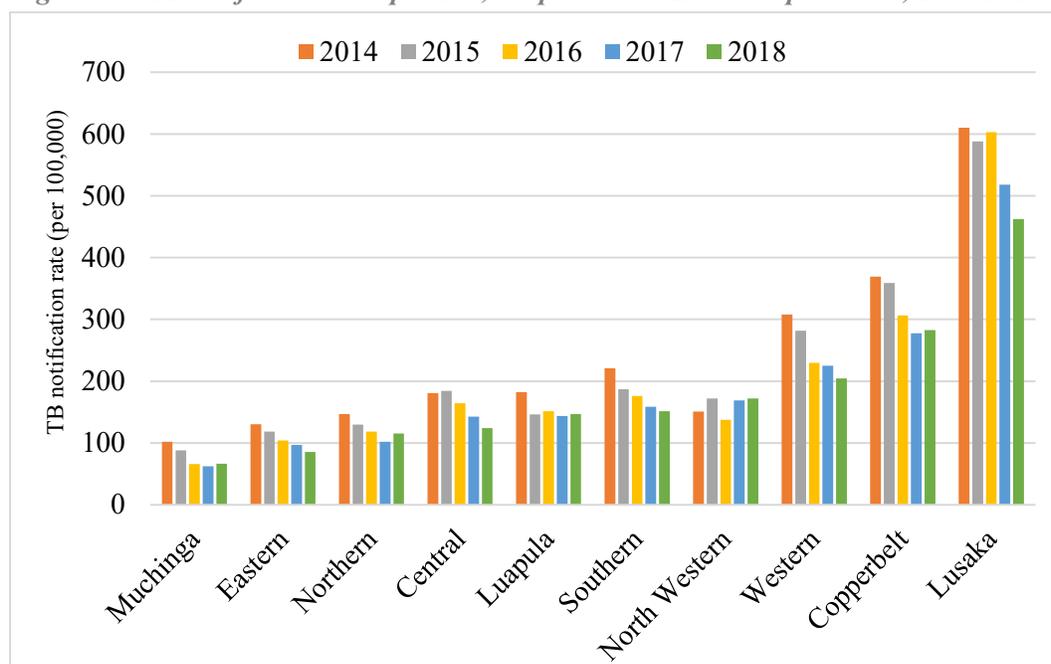


Figure 35: TB notification rate per 100,000 persons in Zambian provinces, 2014-2018



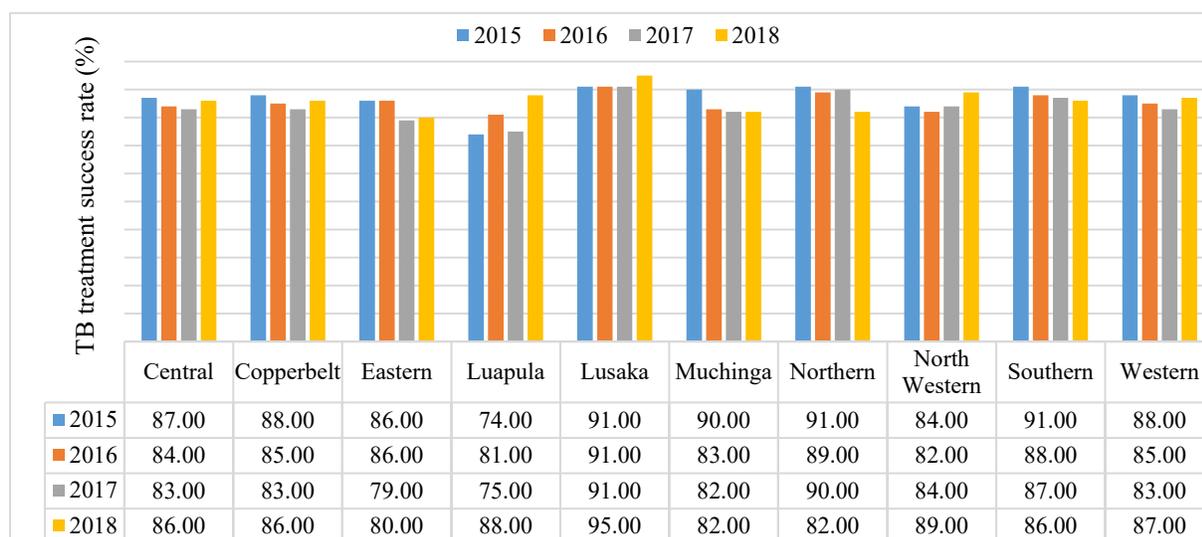
The case detection rate (all notified TB cases divided by the WHO estimated TB incidence for the particular year) for 2018 was estimated at 50%, which is off the 2020 target of 72% (the M & E framework did not have a 2018 target for the indicator). Case detection rates were low especially among older people (45+ years). This is possibly because the national 2014 TB prevalence survey resulted in an upward adjustment of the estimated incidence cases and a lowering of the case detection rate to 37% for 2015 (but with a very large uncertainty of 22–78%).

There has been only a small decline of TB mortality rate from 115 per 100,000 population in 2015 to 102 per 100,000 population in 2018 and with most of the TB mortality being attributed to HIV/AIDS since the 2018 mortality rate among those who were HIV negative was 28 per 100,000 (95% uncertainty range 16-42)

TB Management

The treatment success rate for all new and relapse and TB cases in Zambia was high, with a reported success rate of 90% in 2018 against the NHSP baseline of 84% as per the HMIS data. Based on WHO data, there was a decline in the annual treatment success rates from 88% in 2015 to 86% in 2017 and then the rate went up to 90% in 2018. The treatment success rate for 2018 thus not only met the NHSP target of 86% but also surpassed it. Provincial TB treatment success rates between 2015 to 2018 ranged from 74% to 95% as shown in *Figure 36* below. Luapula Province had the lowest treatment success rate average of 79.5% while Lusaka Province had the highest average treatment success rate of 92% for the 2015 – 2018 period. The effective coverage, defined as detection and successful treatment as a proportion of estimated incidence cases, was however still low (52% in 2018) and with little progress over the 2015-2018 period.

Figure 36: Treatment success rate in Zambian provinces, 2015 – 2018



Zambia is considered a low multi drug-resistant TB (MDR-TB or Rifampicin resistant) country (1.1% of new cases). The number of cases is on the rise. In 2018, 627 cases of MDR-TB were diagnosed (and 1 case of XDR-TB) of which 506 were put on second-line treatment (81%). The treatment success rate among MDR-TB cases put on treatment in 2016 was 71%.

Outstanding Challenges

Outstanding challenges to TB control include:

- Stigma among health workers against offering TB services and thus few health workers were willing to provide TB services to TB patients,
- Challenges in mobilization and patient tracking because of inadequate support to retain TB supporters,
- Health facilities generally had inadequate isolation space for TB patients,
- Health facilities had inadequate safety cabinets for laboratory preparation of sputum for TB diagnosis.

Neglected Tropical Diseases (NTDs) Control

As a commitment to eliminate NTDs in Zambia by 2020, Zambia established the NTDs program that would implement a number of strategies that broadly aimed to strengthen preventive interventions against NTDs, strengthened surveillance & management of NTDs or build capacity for the health system components for better NTDs control. In addition, the program aimed to sustain the elimination status of leprosy in Zambia through enhanced surveillance.

Key findings at mid-term:

- Neglected tropical diseases (NTDs) are endemic in many of the 117 districts in Zambia: LF is in 85 districts, SCH in 103 districts and trachoma in 50 districts.
- Cases of human African trypanosomiasis rhodesiense have declined from over 700 cases in 2005 to 53 cases in 2016.
- Coverage of preventive chemotherapy for applicable NTDs varied greatly, being high for LF and STH but low for SCH

The NHSP M & E framework had one key indicator for NTD control as outlined in *Table 11* below.

Table 11: Summary of the performance of key NTD indicators

Indicator	Baseline	Target 2018	Achievement	Comments
Neglected tropical diseases				
Coverage of preventive chemotherapy for applicable NTDs	92.6% (2015)	95.2%	Ranging from 18% to over 90% (NTD programme, 2018)	LF and STH doing well, trachoma moderate, but schistosomiasis coverage is low.

NTDs Epidemiology

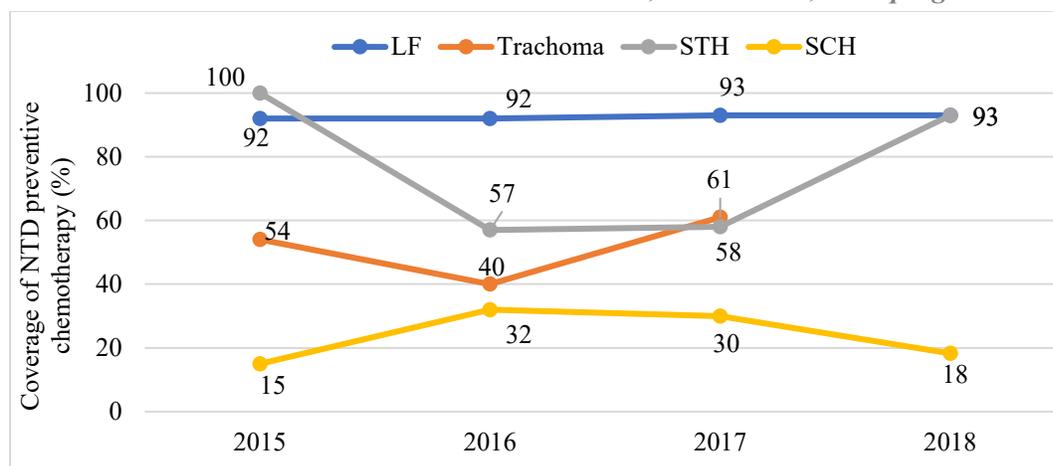
Most districts have all the four main NTDs: lymphatic filariasis (LF), schistosomiasis (SCH), soil-transmitted helminths (STH) and trachoma. LF is endemic to 85 districts of the 117 districts in Zambia, SCH endemic in 103 of the 117 districts in Zambia, and Trachoma endemic in 50 districts of the 117 districts in Zambia. Cases of human African trypanosomiasis rhodesiense have declined in the past decade from over 700 cases in 2005 to 53 cases in 2016, with the last year with more than 100 cases being 2014

Preventive chemotherapy coverage for NTDs

Figure 37 below shows the coverage of preventive chemotherapy as a proportion of the targeted population for the different NTDs. Between 2015 and 2018, preventive chemotherapy for LF was consistently over 90% whereas coverage for STH first decreased from 100% in 2015 to 57% in 2016, then increased to 61% in 2017 and to 93% in 2018. Preventive chemotherapy coverage for trachoma decreased from 54% in 2015 to 40% in 2016, then increased to around 61% as at 2017 as shown in *Figure 37* below. Of the four main NTDs, preventive chemotherapy coverage for STH helminths was consistently the

lowest in the 2015 – 2018 period. Preventive chemotherapy coverage for STH also showed an increase from 15% in 2015 to 32% in 2016 followed by a consistent decrease to 30% in 2017 and 18% in 2018.

Figure 37: Coverage of NTDs preventive chemotherapy for lymphatic filariasis, trachoma, soil-transmitted helminths and schistosomiasis in Zambia, 2015 – 2018, NTD program



All districts have multiple drug administration (MDA) strategies in place that are informed by the respective NTD epidemiology in each district. Implementation of the NTD MDA strategies is such that:

- Four rounds of the five/six MDAs for LF were done in all the ten provinces by 2018, and sentinel & coverage surveys conducted after each of the four rounds showed a positive trend.
- Trachoma campaigns have also been conducted and 5 million people treated through MDA, though confirmation of elimination is yet to be conducted in 26 districts. Eleven districts were due for trachoma MDA in 2019 while 7 other districts are due in 2020. Additionally, over 2000 sight saving surgeries have been conducted though the provision of trachiasis surgeries is yet to be done in 12 districts.
- Estimation of SCH MDA rounds conducted so far is difficult as there has been no time when SCH MDA implementation had 100 % geographical coverage for any province. However, four provinces comprising of 43 districts may have benefited from SCH MDAs by end of 2019. The impact and coverage surveys conducted in districts where SCH MDA has been implemented show a positive trend.

Recommendations on Communicable Diseases

To maintain and improve upon progress made on addressing communicable diseases in Zambia, the following recommendations should be considered for the remaining NHSP implementation period:

- There is need for a targeted community outreach to increase the level of knowledge about HIV among adolescents
- More effort should be put towards sensitization of the community on the advantages of using condoms – especially in the prevention of HIV

Non-Communicable Diseases (NCDs), Mental Health & Injuries

The NHSP set out to reduce the incidence and prevalence of NCDs through two broad approaches: by enhancing health promotion strategies such as cancer awareness, and by strengthening/scaling up the treatment, rehabilitation, care & support for people suffering from NCDs. The NHSP M & E framework identified six indicators for tracking NCD control interventions as outlined in *Table 12* below, and one notable thing is that all the indicators focused on NCD risk factors and not the NCDs. From field visits and key informant interviews, two other NCDs also emerged that are not captured in the NHSP M & E framework: mental health and road traffic injuries.

Key findings at mid-term:

- There are multiple risk factors for NCD that show unfavourable levels and trends in Zambia. In general, these risk factors tend to be higher among urban residents.
- There was no baseline data on overweight and obesity for men. Available data on women was thus used to track obesity in Zambia. Obesity and overweight prevalence among women increased from 23% in 2014 (ZDHS, 15-49 years) to 33% in 2017 (STEPS, 18-69 years). The 2001-2018 trend for obesity and overweight among women accelerated rapidly, and among children under-five, there was almost no overweight increase over time.
- A tenth of adults did not engage in adequate physical activity in 2017, especially urban women.
- Alcohol use is high among regular users (one-third of men and one-ninth of women).
- Tobacco use declined among females but was still higher than both the baseline and target for men in 2017.
- About 6% of adults in 2017 reported having raised blood glucose levels or were currently on medication for diabetes.
- The prevalence of raised blood pressure among males and females in 2017 was 20.5% and 17.6% respectively.
- Average daily salt intake in Zambia is 5 grams. In 2017, salt intake was almost two times higher than the WHO threshold of 5 grams per day.
- Only 21% of women 18-69 years had ever been screened for cervical cancer

Table 12 below is a summary of the performance of the key NCDs control indicators outlined in the NHSP.

Table 12: Summary of performance for key NCDs control indicators

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Obesity and overweight prevalence among adults (M/F) (18–69 years) (%)	M: NA; F: 22.8 (15-49 years, 2013/14 ZDHS)	N/A	M: 16.2% F: 32.5% (18-69 yrs, STEPS 2017)	Prevalence of obesity and overweight has worsened among women.
Adults with insufficient physical activity (%)	N/A	17.8%	10.4% (STEPS 2017)	% lower than the target for which the basis is not clear
Prevalence or raised blood glucose among adults 25–64 years (%)	N/A		Male: 6%; Female: 6% (2017 STEPS)	No baseline and target.

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Age-standardized prevalence of current tobacco use among persons aged 15+ years (%)	Male: 20% Female: 1.6 (2013/14 ZDHS)	Male: 21%, Female: 3%	Male: 23% Female: 2% (STEPS, 2017)	Good progress among females. Tobacco use increasing among males.
Adults with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg), %	N/A	N/A	All: 19%; M: 21%; F: 18% (STEPS, 2017)	
Mean salt intake among adults (in grams)	N/A	<5	All: 9.5g; F: 8.5g; M: 10.5g (STEPS, 2017)	Salt intake in Zambia is almost two times higher than the recommended daily allowance.

NCD risk factor: obesity and overweight

Obesity (BMI ≥ 30kg/m²) and overweight (BMI ≥ 25kg/m²) are one of the risk factors for NCDs. Given that the only baseline data available for tracking this risk factor was that of women, available data on women was used to track prevalence of obesity and overweight in Zambia from 2001 to 2017. As shown in *Figure 38* below, obesity and overweight among women has increased significantly from 12.2% in 2001 to 19.2% in 2007, 22.8% in 2014 and 32.5% in 2017. After aggregating the STEPS 2017 survey data on overweight and obesity by age and gender (*Figure 39*), obesity and overweight prevalence were highest in the 40-59 age group (33.9%) followed by the 60-69 age group (31.6%). These age groups also had the highest obesity and overweight prevalence among males and females. The lowest obesity/overweight prevalence was among 18-29-year olds for both sexes.

Figure 38: Prevalence of obesity and overweight among women in Zambia, ZDHS 2001-2014 (15-49yrs) & STEPS 2018 (18-69yrs)

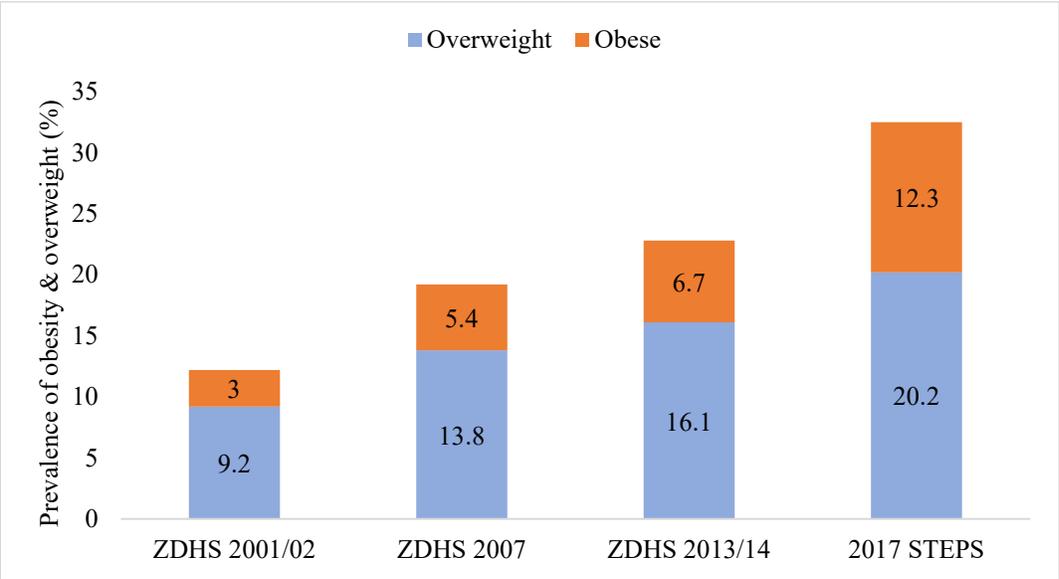
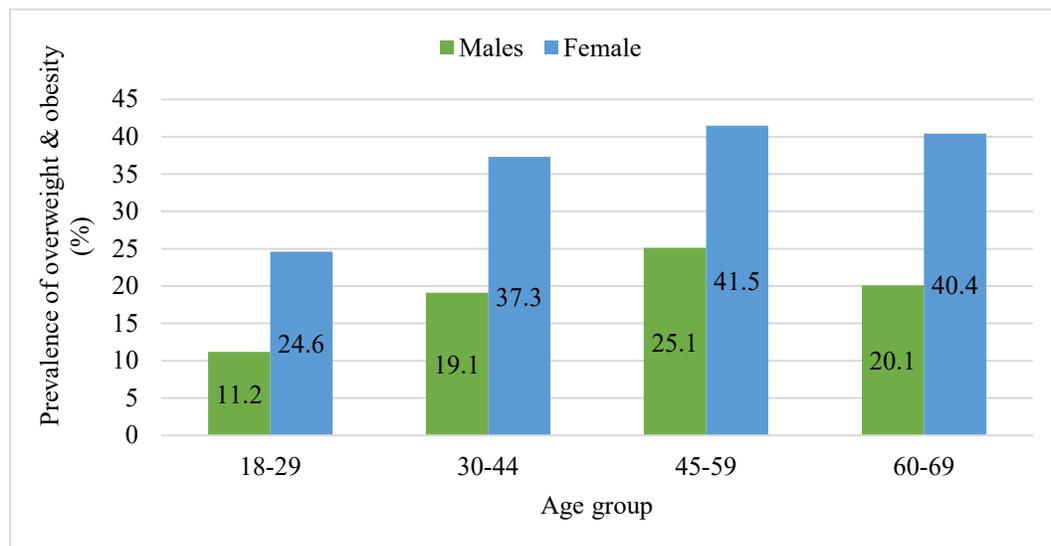
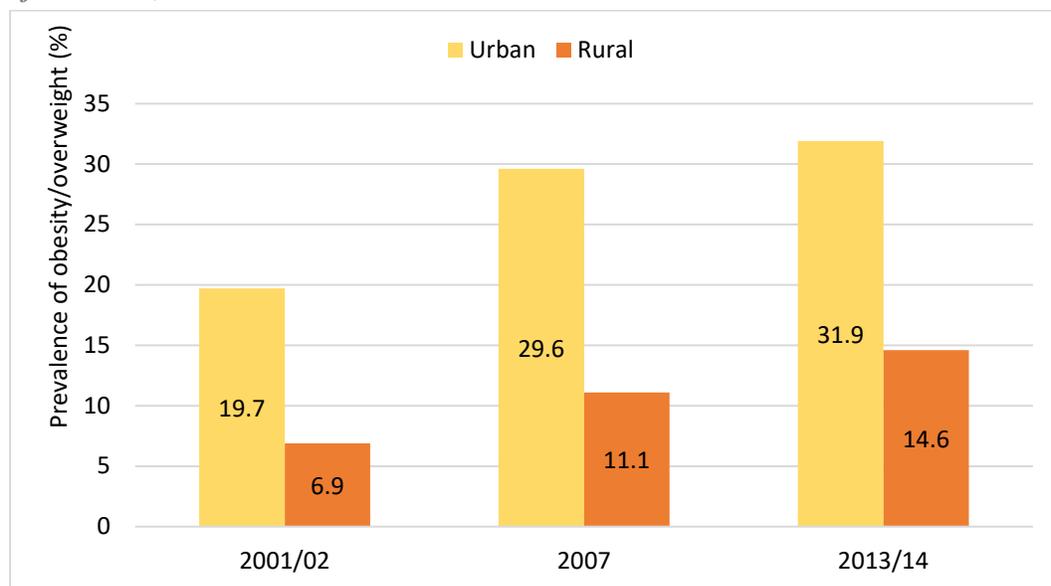


Figure 39: Prevalence of overweight and obesity in Zambia by age & gender, STEPS 2017



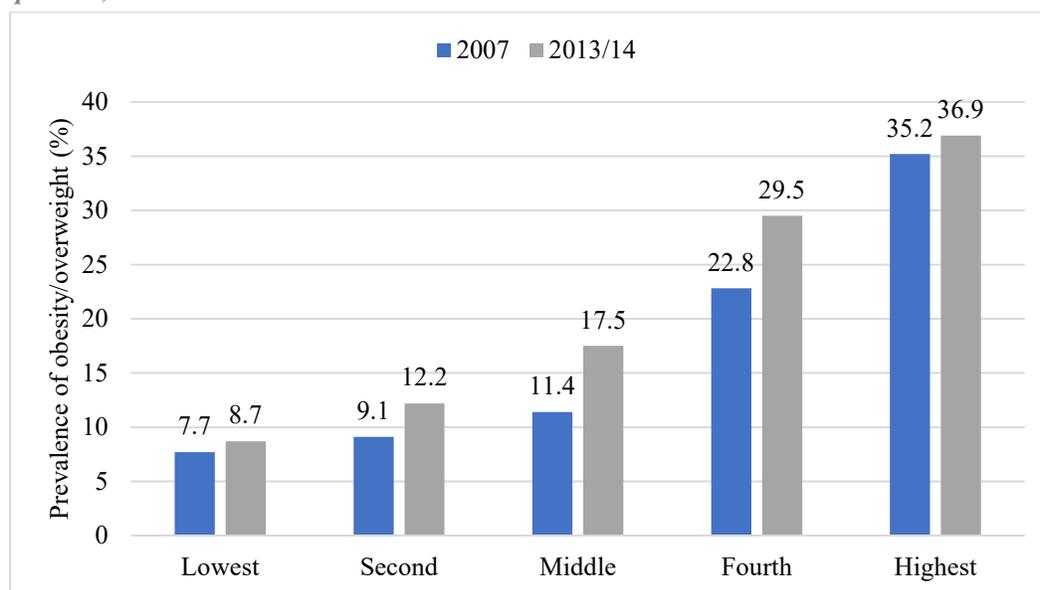
The data on obesity and overweight prevalence among women was disaggregated by place of residence as shown in *Figure 40*. Trends in adult obesity and overweight prevalence among women by place of residence demonstrate two points. First, across all data points, the obesity & overweight prevalence was two to three times higher in urban areas compared to rural areas. Second, in both urban & rural places of residence, obesity and overweight prevalence has been increasing over time.

Figure 40: Prevalence of obesity and overweight among women in Zambia aged 15-49 years by place of residence, ZDHS 2001-2014



The data on obesity and overweight prevalence among women was also disaggregated by wealth quintile as shown in *Figure 41* below and the trends demonstrate two findings. First, the higher the wealth quintile, the higher the obesity and overweight prevalence. Second, the prevalence of obesity and overweight appears to be increasing over time across all five wealth quintiles.

Figure 41: Prevalence of obesity and overweight among women aged 15-49 years in Zambia by wealth quintile, ZDHS 2017 & 2013/14



NCD risk factor: tobacco use

Tobacco use in Zambia has been declining over time, with its use being about ten times or more among males than females (*Figure 42*). Between 2010 and 2014, tobacco use among persons aged 15-49 years declined from 2.7% to 1.6% among females and from 26.4% to 20.2% among males. Based on the STEPS 2017 survey, tobacco use among persons aged 18-69 years was 2% among females and 23% among males. A comparison of the use of tobacco in 2017 against the NHSP target and baseline (*Table 12*) shows that tobacco use among females not only declined but also met the NHSP MTR target. However, tobacco use among males has increased and is above the NHSP MTR target.

Figure 43 below shows tobacco use in Zambia disaggregated by place of residence. Data from the 2001/02, 2007 and 2013/14 ZDHS surveys shows that the prevalence of tobacco use declined in both urban and rural areas, and the prevalence was consistently higher in rural areas. A further disaggregation of ZDHS 2007 & 2013/14 surveys data by wealth quintiles shows that prevalence of tobacco use is highest in the lowest and second lowest wealth quintiles. *Figure 44* shows the prevalence of tobacco use in Zambia disaggregated by wealth quintiles.

The 2017 STEPS survey also disaggregated tobacco use by product type and manufactured cigarettes were the most commonly used product, with 67.9% of tobacco users reporting using them. This was followed by hand-rolled cigarettes at 48.6%, pipes at 5.1%, cigars, cheroots & cigarillos at 9.8%; shisha at 3.3%, and other products at 3.5%.

Figure 42: Prevalence of tobacco use among persons aged 15+ years in Zambia by gender, ZDHS 2001-2014

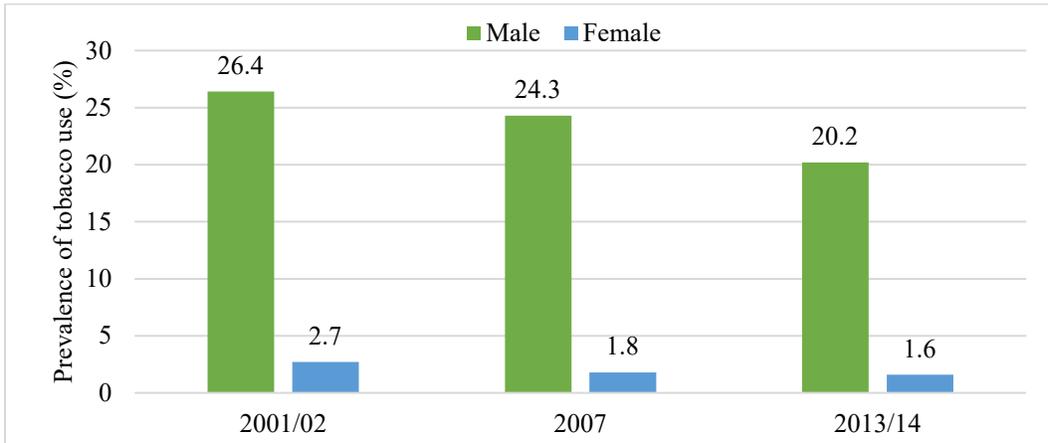


Figure 43: Prevalence of tobacco use among persons aged 15+ years in Zambia by place of residence, ZDHS 2001-2014 & STEPS 2017

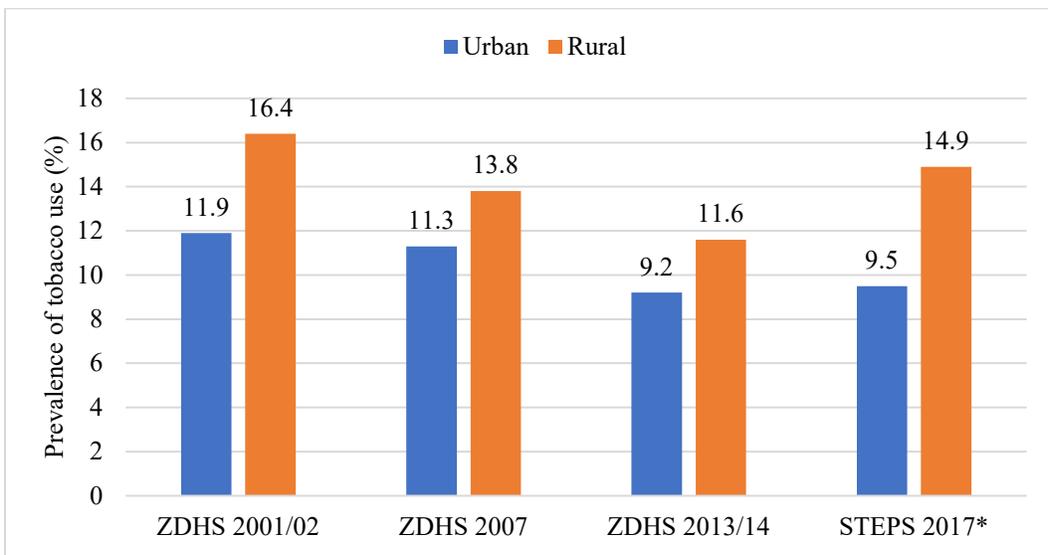
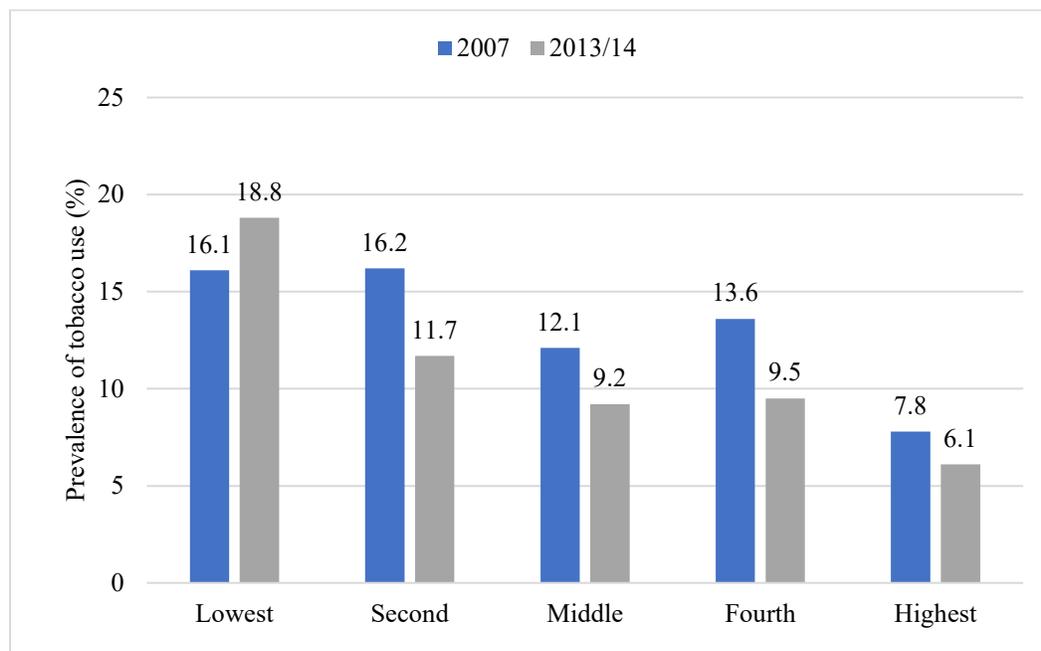


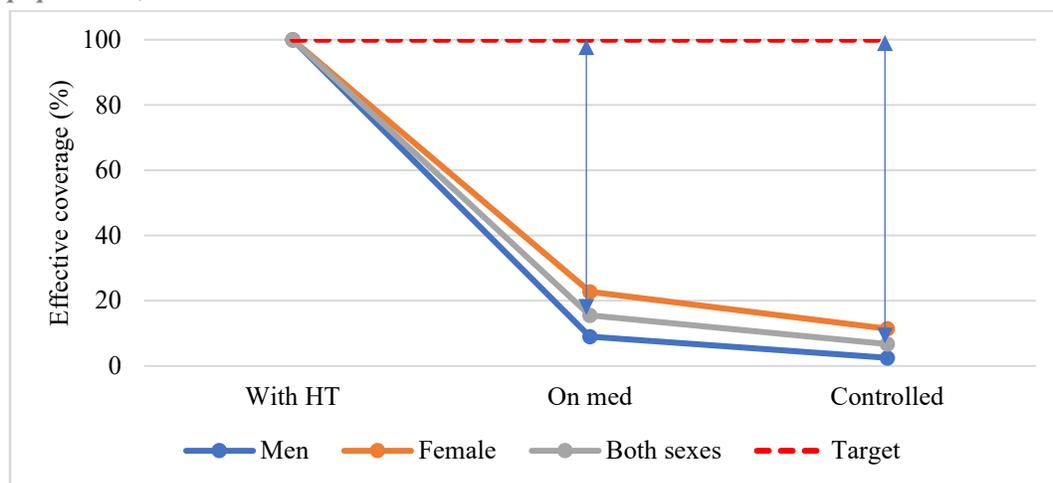
Figure 44: Prevalence of tobacco use among persons aged 15+ years in Zambia by wealth quintile, ZDHS 2007 & 2013/14



NCD risk factor: high blood pressure

Raised blood pressure is defined as a having systolic blood pressure of at least 140 mmHg and/or a diastolic blood pressure of 90 mmHg. Based on the 2017 STEPS survey the prevalence of high blood pressure in Zambia was 20.5% for males, 17.6% for females and 19.1% for both sexes. Among those found to have hypertension in the sampled population for the 2017 STEPS survey, 15.5% were on treatment and only 6.7% had their hypertension controlled. This means that 84.5% of those found to have hypertension were not on medication, and 93.3% of those with hypertension did not have it under control. **Figure 45** below shows coverage of hypertension treatment and control among hypertension cases in the 2017 STEPS survey sample population.

Figure 45: Coverage of hypertension treatment and control among hypertension cases in sample population, STEPS 2017



Other NCD risk factors

The 2017 STEPS survey found that 6.0% of adults reported having raised blood glucose levels or were currently on medication for diabetes. Of all those previously diagnosed with raised blood glucose, 20.9% reported being on insulin treatment. There was no statistically significant difference in the raised blood glucose prevalence between males and females.

According to the 2017 STEPS survey, 10.4% of adults aged 18-69 years did not engage in sufficient physical activity within the last week of the survey. Insufficient physical activity was defined as less than 150 minutes of moderate or intensive physical activity per week, and the levels of physical inactivity were higher among females (15.1%) than males (5.7%).

Overall, 32% of men and 12% of women had drunk alcohol within the last 30 days of the STEPS survey. The average consumption was 6.3 drinks per occasion for men, 4.0 drinks per occasion for women and an average of 7.7 drinks per occasion for both men and women. Though alcohol consumption between urban and rural setups was similar for men, alcohol consumption among women in urban setups was twice that of women in rural setups

Although the indicator on daily salt intake had no explicit target, the World Health Organization (WHO) recommended a threshold of five grams per day. The overall average daily salt intake in Zambia was 9.5 grams in 2017, which is almost twice the recommended threshold. When disaggregated by gender, the average daily salt intake was significantly higher among males (10.5 grams) compared to females (8.5 grams).

Recommendations on NCDs Control Programme

The MTR has highlighted evidence of the presence of and/or increase in numerous NCD risk factors such as obesity & overweight, physical inactivity, tobacco use, raised blood pressure, raised blood glucose, and salt intake. To better manage, monitor and control the NCD burden, a number of measures need to be put in place or reinforced:

- There is need to intensify community awareness campaigns on the importance of engaging in sufficient physical activity. This is likely to reduce the prevalence of overweight and obesity which are to a large extent driven by insufficient physical exercise;
- Human resource capacity strengthening such as training and recruitment of dieticians is required. This should be accompanied by community interventions that sensitize people on how to achieve a proper and balanced diet if to reduce prevalence of obesity and overweight;
- There is need to intensify community and facility screening for NCD risk factors such as raised blood pressure and blood glucose;
- The enactment of the tobacco control policy needs to be accelerated; and
- Collection of routine data on NCD risk factors such as high blood pressure and raised glucose is necessary for future tracking relevant NCD indicators in the NHSP. Due to lack of routine data, this analysis relied on data from surveys which are typically conducted after at least three years, making the tracking of indicators more challenging.

Mental health

The HMIS does include reporting of mental health disorders from the inpatient and outpatient departments by type (neurosis/psychosis). In 2018, 12492 psychosis cases were reported – similar to the year before. Neurosis reporting was however much lower, even though it is a much more common condition. Although this MTR s has shown evidence of the declining number of mental health disorders, significant data quality concerns have also been highlighted. The implication of these concerns is that the trends observed cannot be taken at face value in light of significant data limitations.

Recommendations on mental health

In order to support the achievement of mental health related targets, the following measures should be considered:

- Enhance community awareness on the ‘facts’ about mental illnesses; there is need to debunk the various myths associated with mental disorders that result in stigma against people suffering from these disorders;
- Train and recruit human resources such as psychiatrists;
- Have targeted investments in physical infrastructure for mental health services; and
- Disaggregate routine mental health data by age group and sex so as to have better targeted interventions.

Road traffic accident (RTA) injuries and deaths

In 2018, 29,606 injuries due to road traffic accidents were reported, which were much lower than the previous two years. Data on RTA injuries and deaths however have serious data limitations relating to completeness of the data. These data quality concerns are further exacerbated by a lack of a routine data sharing mechanism among the authorities concerned. The data thus cannot be considered to be reliable and no level of trend can be ascertained. The same applies to mortality due to traffic accidents.

Recommendations on RTA

The following recommendations should be considered:

- Strengthen collaboration among authorities concerned with RTA injuries and deaths;
- Disaggregate data on RTA injuries and deaths by mode of transport, time of associated RTA accidents (day/night), age, group and sex so as to better inform policies on containing RTAs.

Chapter 4: Progress and Achievements in Health System Inputs

Introduction

This chapter provides key highlights of the country's progress and achievements in various health sector investments against the NHSP targets.

Infrastructure, Equipment and Transport

Introduction

The NHSP set out to:

- To increase access to health services through construction and rehabilitation of health facilities in order to facilitate equity of access to quality health services.
- To manage and implement the acquisition, usage, maintenance, and management of medical health care technology in health institutions for the provision of quality health care Objectives.
- To manage and implement the acquisition, usage, maintenance, and management of medical health care technology in health institutions for the provision of quality health care Objectives.
- To have a well-maintained fleet to ensure mobility for service delivery.

Investments in these areas were to be monitored through 10 indicators although at midterm, data were not available (except for two indicators) to assess attainment of targets or the lack there of.

Key Findings on Health Infrastructure:

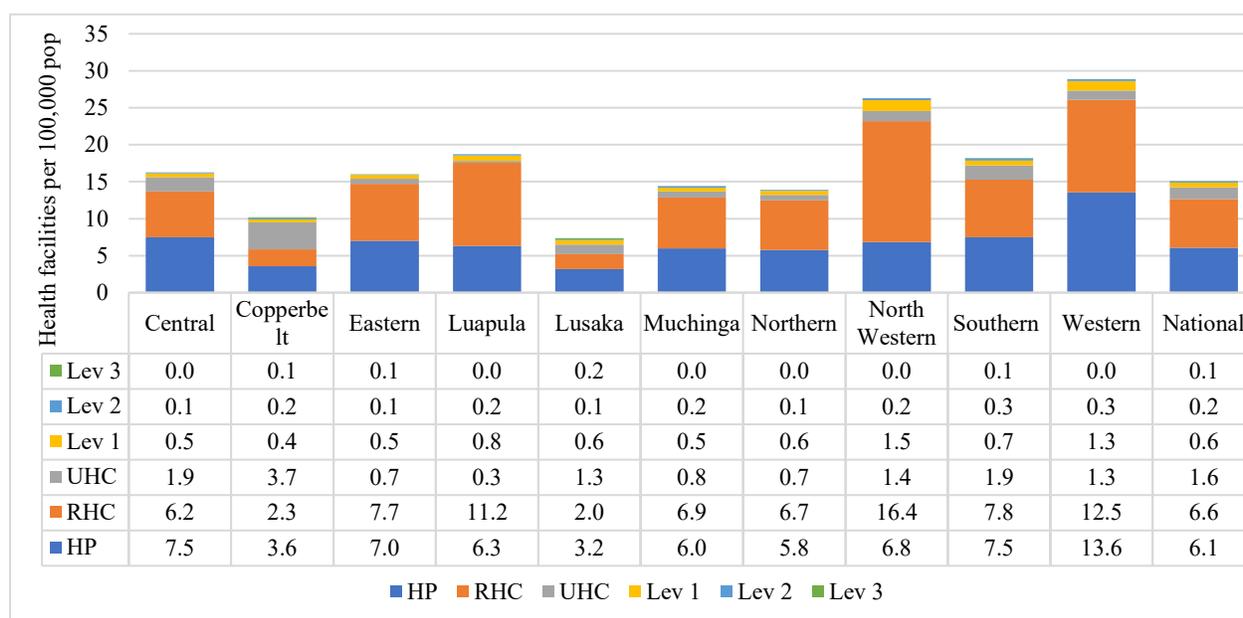
- The 2018 infrastructure target of 12 health facilities per 100,000 population was surpassed with an attainment of 15 public health facilities per 100,000 population, representing one health facility for about 7,000 people in Zambia.
- Though the bed density in Zambia declined from 20 per 10,000 in 2015 to 17 per 10,000 population in 2018, it is still higher than the 2018 target of 16 beds per 10,000 -despite the private sector heavily underrepresented. Bed density ranges from 13 in Northern Province to 32 in North-Western province. Therefore, the bed density in 2019 is higher than the 2018 NHSP target.

Health Facility Density

The country had an NHSP target of about 12 facilities per 100,000 population by 2018. At the time of the MTR, this target had been surpassed as shown in *Figure 46*. The facility density in the country is currently 15 facilities per 100,000 population, representing one facility for about 7,000 people. This finding was corroborated by the respondents who reported massive construction of new health facilities across all the provinces visited. This current facility density data however does not include private facilities; thus, the facility density would be higher had the data captured private facilities.

Even with this tremendous achievement in health facility expansions in the country, provincial differences are large. Facility densities in Lusaka and Copperbelt province are below the national average and this is in large part due to undercounting of private facilities. A major limitation of computation of facility density is that it assumes equal access to a health facility for everyone; provinces like Lusaka and Copperbelt with better roads and public transport infrastructure may have better access to health facilities than Western and North-Western provinces.

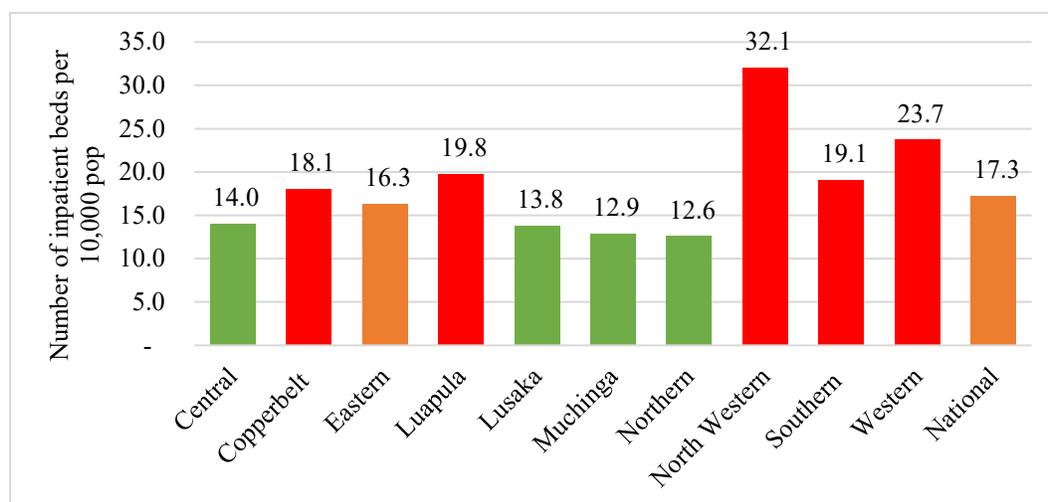
Figure 46: Facility density per 100,000 Population by Level of Care



Inpatient Bed Density

The country's NHSP target for inpatient bed density was 16 beds per 10,000 population by 2018. Data available by 2017 shows that the health facility density was 17.3 per 10,000 population, which has surpassed the NHSP target. As was the case with health facility density, provincial differences in bed density were quite large, with about threefold relative difference between the top and bottom provinces as shown in Figure 47 below. North-Western province had the highest bed density per 10,000 population (32.1), followed by Western (23.7) and Luapula (19.8) provinces. Northern Province had the lowest bed density per 10,000 population (12.6), followed by Muchinga (12.9) and Lusaka (13.8) provinces.

Figure 47: Inpatient bed density per 1000 Persons, National Health Facility Census, 2017



Qualitative Findings on Health Infrastructure.

The health facilities visited generally described their equipment as inadequate, especially those at the primary health care level and the newly constructed ones. Some of the recently constructed facilities had even been opened without necessary equipment. On the other hand, transport for the health sector was generally said to be inadequate - there was a reported good supply of motorcycles but inadequate ambulances and utility vehicles in most districts visited.

Recommendations on Health Infrastructure

To enhance the gains made in this investment area over the remaining NHSP period, it's necessary to consider the following recommendations:

- Prioritize investment in repair and maintenance of old infrastructure even as new (additional) ones get constructed
- Ensure availability of essential equipment for all health facilities in the different levels of care
- Develop infrastructure norms and standards to guide the prioritization of new facilities based on population/service needs (by level of care) and catchment areas
- Improve the data and recordkeeping on infrastructure service readiness capacity for existing health facilities

Health Workforce

Introduction

The NHSP committed to increase availability of trained and motivated staff that are equitably distributed to contribute to the effective delivery of the NHSP goals.

Key Findings on Health Workforce:

- The total health workforce required in the country as per the established positions at the end of 2019 was 126,389. However, the filled positions were 60,332, representing a gap of 52%.
- The core health workforce density (medical officers, nurses, midwives, clinical officers) increased to 16.5/10,000 in 2019, but is still well-short of the target.
- There was variation across the provinces with Eastern and Muchinga provinces reporting the lowest health workforce density per 10,000 population, while Lusaka and Copperbelt provinces had the highest health workforce density.
- The number of facilities with 80% of professional staff at all levels of health care was 100%, representing a significant capacity for service provision at the different levels of health care

Performance against set human resources for health (HRH) indicators is shown in *Table 13*. From this summary, significant progress has been made towards the recruitment of health workers to meet this NHSP target. Between 2017 & 2019, a total of 21,654 were recruited, of which 20,442 are GRZ supported and 1,232 partners supported. The lifting of the ban on recruitment and the expansion of the establishment partially explain the massive recruitment. Indeed, most of the health centers and health posts generally reported to have an adequate number of staff as per establishment while most hospitals reported that they were yet to attain the expected numbers. The hospitals also reported that the new staff establishment was not yet operationalized fully and were thus operating on partial establishment. However, even with these achievements made so far, the country is still far off from meeting its established public-sector HRH needs.

By 2019, only 60,332 (48%) of the established 126,389 health worker positions in the public sector had been filled.

Table 13: Performance of various NHSP core HRH indicators

Indicator	Baseline	Target 2018	Achievement	Comments
Health workforce				
Health worker density (Medical officer/MO, Clinical officer/CO, nurses, and midwives)	12 per 10,000 population	35	16.5 (2019)	Major increase but the 2018 target is still far off.
Percentage of approved posts filled by skilled personnel (doctors, medical licentiates, clinical officers, nurses, other) by the six levels of care	69.2% (WHO AFRO)	73.5%	47 (%)	This indicator was well below the target; Target is below baseline because of newly approved staffing establishment under the NHSP
Percentage of health facilities with at least 80% of professional staff on establishment filled (by the six levels of care)	73% (HRIS year)	85%	100%	Every facility in Zambia has qualified personnel.
Health facilities with at least one qualified health worker (%)	88%	90%	>95%	Achievement is above target.
Health Workers trained annually as percent of total professional workforce gap	N/A	N/A		No data.
Proportion of health workers recruited annually as percent of the workforce gap	N/A	N/A	16%	Significant achievements were made during 2018-19 with deficits of 16% in 2018 and 11% 2019.

Recruitment of New Health Workers

In line with the broader GRZ legacy goal, the NHSP 2017-2021 identified investment in health workforce as a key priority of the health sector. The health sector began by first re-determining the MoH staffing establishment that would be required to offer the desired NHSP services across different levels of care. This saw the required staffing establishment by MoH be 126,389 for 2019. Subsequently, the NHSP, through its legacy goal number 3, outlined an objective of recruiting 30,000 health workers to meet the needs of the newly established positions by the end of its implementation period. Significant progress has been made towards the recruitment of health workers to meet this NHSP target as 21,654 HRH have been recruited in the 2017 – 2019 period.

Distribution of Health Workers

The data on regional distribution of health workforce showed significant variations across provinces. As shown in *Figure 48*, Lusaka, Copperbelt, Southern, Western and Northern provinces have higher densities of core health workers than the other provinces and have met the NHSP targets. North Western, Luapula and Central provinces have made good progress towards achieving the NHSP target while Eastern and Muchinga provinces show a decline in core health worker density.

Figure 48: Core health worker density per 10,000 population by province, MoH HRIS, 2019

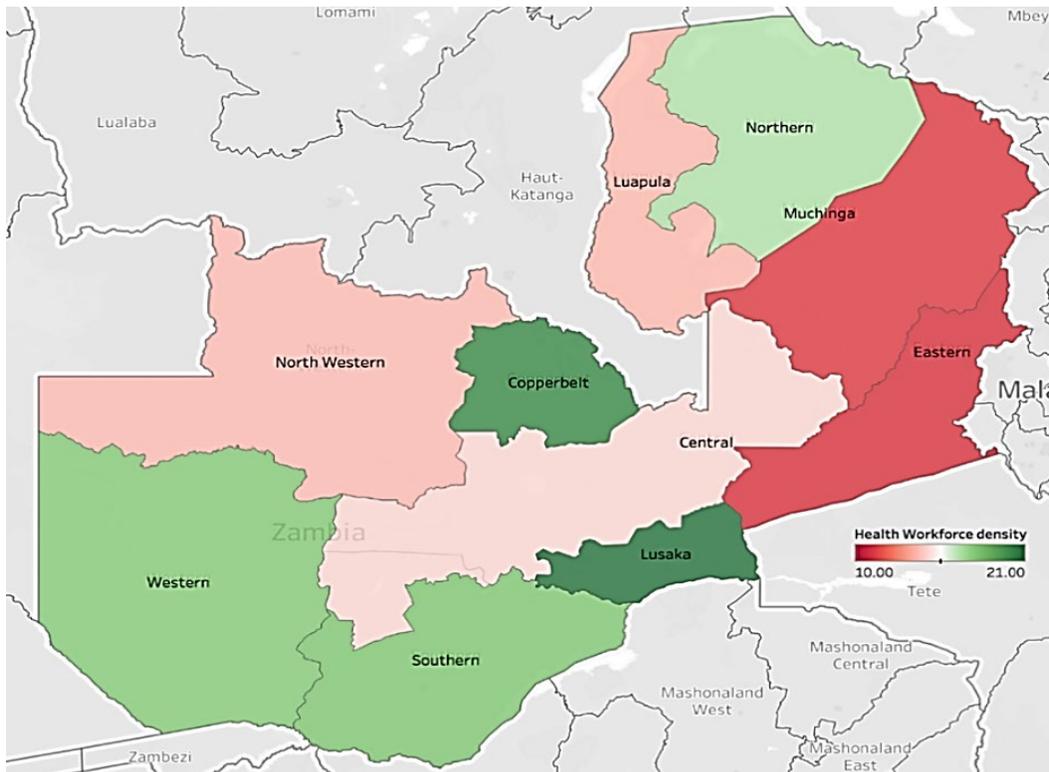
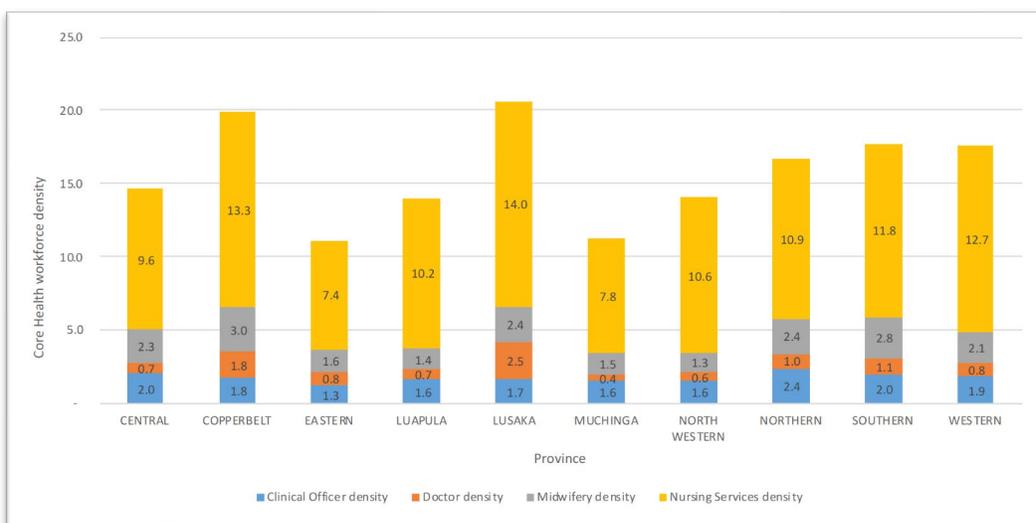


Figure 49 is a graph summarising the HRH distribution in the country by province and by cadre. The urban provinces of Lusaka and Copperbelt were the most populated in terms of clinical officers (1.8 of the 3,058/10,000 population), doctors (1.3 of the 2,198/10,000 population), midwives (2.2 of 3,833/10,000) and nurses (9.8 of 19,561/10,000). From these figures, though the country has made significant efforts in availing health workforce for service delivery, there is inequitable distribution across the different provinces. Efforts should be made to equitably distribute the health care workers across the country.

Figure 49: Summary of core health worker density by cadre per 10,000 population



Qualitative Findings on the HRH Achievements.

Staff availability: with the increased HRH numbers in the 2017-2019 NHSP implementation period, health centers and health posts generally reported to have an adequate number of staff as per establishment while most hospitals reported that they were yet to attain the expected numbers. The hospitals also reported that the new staff establishment was not yet operationalized fully and were thus operating on partial establishment.

Staff retention: the health sector has made efforts to retain available staff. Some of the measures reported by interviewees include: hiring of local people to increase likelihood of retention, motivating staff by considering them for career progression opportunities, collaborating with partners to give staff short-term trainings and workshops for continuous professional development, giving study leave for long-term training and offering promotions when there are vacancies for the same. There were some challenges reported on the full implementation of some of these retention measures. For instance, some healthcare workers that have upgraded their education through long-term trainings have not yet been promoted because of the scarcity of promotion vacancies. There is also a high attrition of staff from rural health centers because of challenges such as inadequate staff housing and limited opportunities for study leave because of the low density of available staff. It was also reported that delays in confirmation of health workers to management or service provision positions also demotivated the staff.

HRH skills mix: the overall skills mix in the HRH establishment was reported as a challenge across the different levels of service provision. It happened in the training, recruitment and even at the level of staff distribution. In the training, one interviewee reported that Zambia Enrolled Nurses (ZEN) preferred being employed as enrolled nurses over midwifery despite there being positions for midwifery. In the recruitment process, medical doctors and nurses were reported to be given preferential opportunities during the recruitment. One of the effects of these practices is the shortage of staff for certain health services.

HRH training and production: presence of nursing schools in the provinces is helping produce health workforce for health service provision. Students are placed on internship in hospitals and health centers where they are offered mentorship and training as well. Besides the internships, interviewees reported that there was also a Specialty Training Program (STP) under implementation in hospitals that provided training for specialists, hence contributing to legacy goal number 8 that aims to have 500 specialists trained by 2021. Nevertheless, many facilities had inadequate staff and infrastructure to support the trainings. Having many students also caused overutilization of available consumables.

Community health staffing: Community health assistants were reported to be bridging the gap between the health post and the community and in the process, help get more work done. Lack of incentives, however, caused a high attrition rate of community health volunteers who are also important players in community health.

Recommendations on HRH

To maximize on the ongoing investments in this area, there is need to consider the following recommendations.

- Develop and adopt HRH norms and standards guided by the essential health package that would guide the allocation and distribution of HRH across levels of care
- Ensure equity in the allocation and distribution of HRH across regions
- Enhance regulation of HRH training to ensure quality of produced health workers
- Consider undertaking a comprehensive health labor market survey to guide future investment in health worker production

Pharmaceutical and Medical Supplies

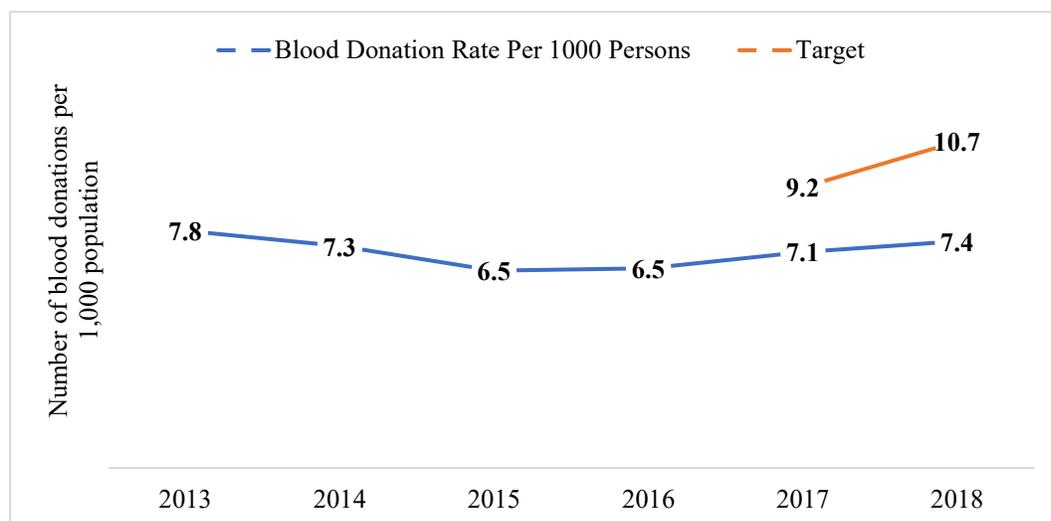
Introduction

The NHSP sought to ensure availability of safe, adequate, quality, efficacious, and affordable essential medicines and medical supplies at all levels of service delivery, through efficient and effective procurement and logistics management systems. The M&E framework identified 12 indicators to monitor attainment of this goal. Unfortunately, data were only available for only 1 indicator - blood donation rate per 1,000 persons.

Blood donations rate per 1,000 persons

The country set out to increase the blood donation rate per 1,000 population by 15% i.e., from 9.2 per 1,000 population in 2017 to 10.7 per 1,000 population in 2018. However, as illustrated in *Figure 50*, this target was not met. The blood donation rate in Zambia has largely remained stagnant at around 7 per 1,000 population.

Figure 50: Blood donation rate per 1000 persons, ZNBTS data, 2013-2018



Qualitative Findings on EMMS

The Zambian Medical Supplies Limited (MSL), which is responsible for delivering essential medicines and medical products directly to all health facilities has been undergoing several reforms. Top among these reforms include: change of supply schedule from monthly to bimonthly, construction of regional hubs to reduce the distance & cost of transportation of commodities to the facilities, and undertaking a mapping exercise to improve supply chain by the hubs.

MSL has however not adhered to its schedule of commodity deliveries, with reported stock outs of essential commodities even at its the central stores. This has resulted in low and erratic supplies to health facilities. The erratic supply has resulted in reported stock outs of essential drugs, tracer drugs and essential commodities at hospital and primary healthcare levels. Hospitals have had to implore contingency plans by procuring their drugs through local purchase while health centers and health posts have also had to procure their drugs through their DHOs for supplementation of drugs. Erratic funding at District level has further affected the quantities procured, which forces facilities rush to share the little commodities available. Hospitals are also put under pressure to share some of their commodities with the health posts and health centers

Service Delivery Systems

Introduction

The NHSP and its M&E framework identified the following set of indicators for monitoring and tracking progress in the investments of service delivery systems in the country: proportion of service units with fully functional referral services, the Health Services Act to replace the 1995 Health Services Act be enacted within 2019, proportion of service units complying with service standards, proportion of service units (labs, facilities, etc.) fully accredited for services, functional supportive supervision and mentoring system, fully functional management structure (national, subnational, facility), proportion of facilities providing full complement of essential health services (by level, ownership, type), and proportion of health facilities with service charters defining services offered & patient rights and obligation

The MTR assessment of these indicators noted that two of them, ‘*The Health Services Act to replace the 1995 Health Services Act be enacted within 2019*’ and ‘*Fully functional management structure (national, subnational, facility)*’ should be indicators for monitoring interventions in the health system leadership and governance domain and not service delivery system domain. In addition, the MTR also noted that there is no routine or survey data that is currently captured in the sector to track these indicators.

Qualitative Findings on Service Delivery Systems

From the interviews, the country has in place an essential health package (EHP). This EHP has defined the range and type of health services offered to all citizens at the different service delivery levels. Alongside the EHP is a comprehensive referral strategy. To ensure good adherence to the referral system across the levels of care, the country has instituted a ‘gate-keeping’ fee for people who override the referral system by seeking health services at higher levels.

To enhance primary care services, the country adopted a comprehensive community strategy. The strengthening of community health services has seen the progressive transfer of basic primary care services e.g. family planning services from the health posts to the community & family level – delivered by community health volunteers (CHVs).

Conclusions and Recommendations for Health Service Delivery Systems

There is need to develop and put in place data and information gathering systems to monitor progress on investment of health service delivery systems in the country.

Health Management Information Systems

Introduction

The NHSP M&E framework identified 10 indicators to monitor investments in strengthening HMIS. Targets were only achieved in 3/10 indicators.

Key findings at mid-term:

- Zambia conducts multiple health surveys that provided data for the MTR. These include: Zambia demographic health surveillance (ZDHS) done every five years, Malaria & HIV surveys that are done frequently; a recent NCD survey and a National Health Facility Census in 2017 (for the public sector). Data from these surveys was available except the 2018 ZDHS for which only the preliminary report was available.
- Completeness of reporting in HMIS using a single form for each facility is high (> 90%), though data element completeness could not be assessed. Private sector reporting is very poor and also larger health facilities tend to underreport.
- HMIS data quality was found to be good after assessment using three parameters: extreme outliers, consistency over time and consistency between reported events. The 2018 HMIS data however showed less consistency than preceding years.
- Coverage of birth registration remains low at only 14.8%, which is well below the target of 20.4%. Death registration system was only operational from 2016, and coverage of deaths by the civil registration system remains a test for a good coverage.
- The Ministry of Health has a data warehouse and integration of other reporting systems is in progress.
- The proportion of health facilities using EHR was 879/2698 or 31%, which is slightly lower than the set target of 32%. It is important to note that of these facilities using HER, the proportion of facilities with E-first - implying all service points use electronic data - is at 228/879 or 13%.

Table 14 below summarises the performance of core HMIS Indicators

Table 14: Performance of NHSP core HMIS Indicators

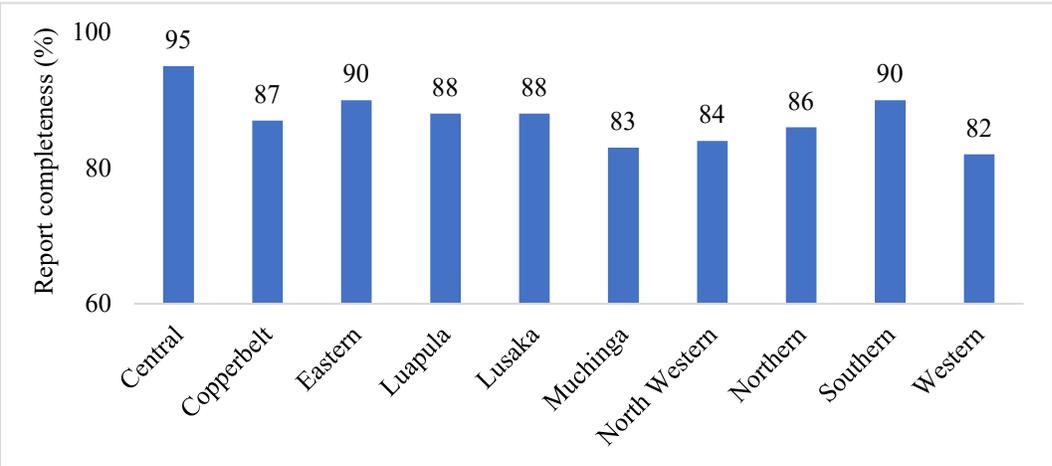
Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
Health information system				
Coverage of birth registration	14	20.4	14.8%	Computed with estimated births in 2018; must strengthen Civil registration system.
Coverage of death registration	N/A	N/A	13%	
Existence of a functional integrated data repository	N/A	N/A	Available	The data warehouse is not fully operational; Other service areas not stored in the data warehouse must be included.
Proportion of hospitals using correct ICD coding	N/A	20	13%	Inadequate ICT equipment has contributed to the low use of the ICD10 coding.
Coverage of IDSR surveillance systems	25	55.0	100%	All the districts are using IDSR for reporting weekly and monthly.
Presence of comprehensive	N/A	N/A	Available	The Ministry has implemented the DHIS2 for routine health information system. Other

Indicator	Baseline (year)	Target 2018	Achievement (source)	Comments
country health database for the past 5 years				databases also exist such as HRIS, Logistimo, ELMIS, planning & budgeting tool, and NAVISION for expenditure reporting.
Completeness levels of facility reporting	80	84.0	90.3%	The report completeness has shown improvement due to enhancement of systems that monitor data entry; adherence to timeliness still remains a challenge.
Data accuracy levels of facility reporting	50	54.0		Accuracy is partly established by verification of data in site visits to selected health facilities; indicator difficult to capture but estimates can be obtained from programmes such as HIV, TB and Maternal Health.
Proportion of health facilities with functional EHR (by level of care)	20.0	32.0	31%	879/2698 are using EHR while 228/879 facilities are E-first facilities.

Completeness Levels of Facility Reporting

The NHSP 2018 target for report completeness was 84%. As shown in *Figure 51* below, only Western province was below the target of 84% completeness in the HMIS- HIA 2 database.

Figure 51: Report completeness of the IDSR System, 2018 Annual IDSR report



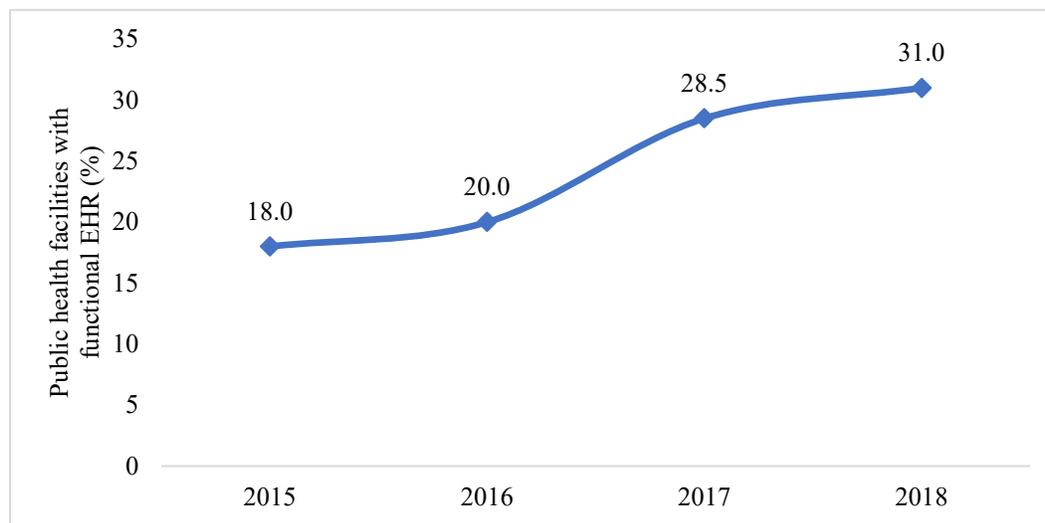
Generally, report submission is timely with reports being submitted on a monthly or weekly basis. Reported completeness varied with some interviewees attributing low completeness of reports to inadequate equipment for data entry, load shedding that affects operation of electronic equipment due to lack of power backup systems, poor internet connectivity, lack of training on the use of some health management information systems, duplicity of data entry in to different systems that increases workloads for personnel and transport challenges especially for those in hard to reach places.

Presence of Comprehensive Country Health Database for the Past Five Years

The MoH has implemented the DHIS2 for a routine health management information system (HMIS) and almost all programs in the health sector use DHIS2. Other databases also exist such as HRIS, Logistimo and ELMIS that need to be integrated with DHIS2. There is limited sharing of access to DHIS2 outside the MoH, which is a major limitation to enhanced use of this rich source of data. The DHIS2 system also needs to mature given that extraction of data from the system appeared complicated and taking considerable time - at least as part of this review.

The proportion of health facilities with electronic health records (EHR) increased from 18% in 2015 to 28.5% in 2017, and to 31% by 2018 as shown in *Figure 52*. The indicator was defined in line with looking at the facilities with a functional SmartCare. The facilities under private were however not included in this computation.

Figure 52: Proportion of public health facilities with functional EHR, 2015-2018



Coverage of integrated disease surveillance and response (IDSR) systems

The NHSP aspired to strengthen routine, community-based, and facility-based surveillance systems for improved public health decision making and action by 2021. By the end of 2018, all districts had an IDSR system set up and reporting effectively. The country recorded 80% coverage in IDSR for report completeness with central province recording the highest at 95%. The IDSR system is implemented by the Zambia National Public Health Institute (ZNPPI) that has been established to improve disease surveillance and intelligence in disease response to outbreaks as well as other occurrences of public health importance. The ZNPPI runs a network of public laboratories and has set up systems at district level in all the provinces. The districts report weekly through the DHIS2 while being monitored by a team of M&E officers and Public Health workers. These surveillance functions feed into the MoH to allow the Ministry to translate public health security data into effective action.

Qualitative Findings on HMIS Performance

Interviewees acknowledged presence of an integrated health information system at the different levels of care and administrative units. Both manual and electronic forms of data entry are in use as some places had as low as 30% coverage of electronic health records. Interviewees reported

that manual systems such as OPD cards and registers faced challenges such as stock out of registers and cards as well as filling up of storage spaces for patient files

Reports from the information systems were noted to be useful in planning and decision making with different reporting levels reviewing their data for quality improvement before submitting to the higher level. Proper data reviews and analyses for planning and decision making were however not done regularly and highlighting the need for improvement of data analysis and use.

There are multiple systems for health records in Zambia. Some systems such as Smart Care for ART, SMART for cervical cancer, Data to Care for TB and ELMIS for logistics are for specific programs and activities. Others such as the DHIS2 system aggregate records from multiple facilities and use tools such as the HIA2 to aid in aggregating numbers from manual records for entry in the DHIS2 platform. Many of the systems were reported to be working well, though some such as SMART for cervical cancer was reported to have inadequate server capacity. Besides the systems, we found that North-Western Province had introduced an integrated community HMIS for coordinated reporting of community activities in the province.

Recommendations on HMIS

The sector has made significant investment in HMIS. The adoption of the DHIS2 has enhanced timely reporting and better data management. Several other EHR systems have also been adopted and are being implemented. To strengthen HMIS:

- There is need to ensure coordination and integration of the rapidly increasing EHR systems;
- Management of manual cards and registers should be improved towards a reduction in the frequency of their stock-outs
- Efforts should be made to improve the quality and type of data captured in the national HMIS that can be used in the monitoring and evaluation of NHSP interventions. This will improve data availability for assessing NHSP performance while helping reduce the reliance on multiple sources of secondary data.

Health Financing

Introduction

Under health financing, the NHSP set out to reduce the budget gap in the health sector by mobilizing adequate and sustainable financial resources, ensure effectiveness, efficiency, & equity in resource allocation & utilization; and ensure transparency and accountability in resource utilization.

Key findings at mid-term:

- The health sector budgetary allocation has increased during NHSP but its percentage of national budget remained the same at just under 10%.
- The most recent National Health Accounts (NHA) was conducted in 2016 and no NHA had been done in the first half period of the implementation of the NHSP 2017-2021. This makes it difficult to track expenditures in the health sector.
- The current health care financing for public health institutions is largely tax based. However, the implementation of the National Health Insurance Scheme commenced in October 2019

The NHSP's M&E framework identified the following as the core set of indicators for monitoring progress in health sector financing: out of pocket (OOP) health expenditure as % of current expenditure on health, total current expenditure on health (% of gross domestic product) , government expenditure on health as % of total current expenditure, externally sourced funding (% of current expenditure on health), and total capital expenditure on health (% current + capital expenditure on health).

However, as illustrated in *Table 15* below, the MTR process obtained no routine data for the indicators except for one.

Table 15: Performance of Core NHSP Health Financing Indicators

Indicator	Baseline (year)	Target 2018	Achievement	Comments
Financing				
Out of Pocket (OOP) health expenditure as percent of current expenditure on health	12.2% (2016 NHA report)	17.6 %	No Data	The target is higher than baseline; OOP estimates by WHO are much higher,
Total current expenditure on health (%) of gross domestic product	4.5% (2016 NHA report)	9.0%	No Data	
Household Health Expenditure as percent of Total Health Expenditure	11.5% (2016 NHA report)		No Data	
Government expenditure on health as percent of total current expenditure	38.3% (2016 NHA report)	13.4 %	No Data	

Indicator	Baseline (year)	Target 2018	Achievement	Comments
External source of current spending on health as percent of current expenditure on health	42.5% (2016 NHA report)	43.4%	No Data	
Total capital expenditure on health as a percent of current plus capital expenditure on health	5.1% (2016 NHA report)	8.8%	No Data	
Percentage of the population covered by health insurance	4% (2016 NHA report)	50%	4%	The target was not met.

Health Expenditure

There was no NHA report covering the MTR period since the most recent national health accounts (NHA) report was the NHA 2016, which refers to the 2013-2016 period. During the 2013-2016 period, the health sector was heavily dependent on external assistance with an annual average of 42% (US\$30 per capita) of the total per capita health expenditure coming from donors, and 41% (US\$28 per capita) coming from government (Figure 53). Hospitals were the main recipients with an average of about 30% of the total health expenditure (Figure 54). From the 2016 NHA report, the coverage of health insurance in the country was estimated to have remained largely the same at 4%, which is from private insurance.

Figure 53: Financing Sources of Health Expenditure, 2013-2016, NHA 2016

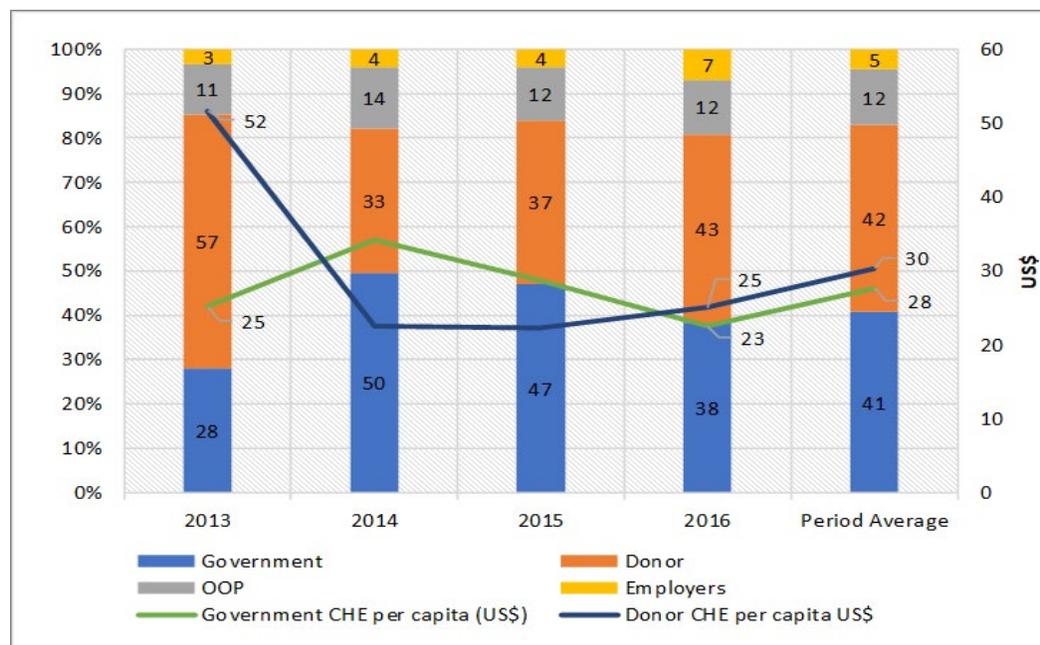
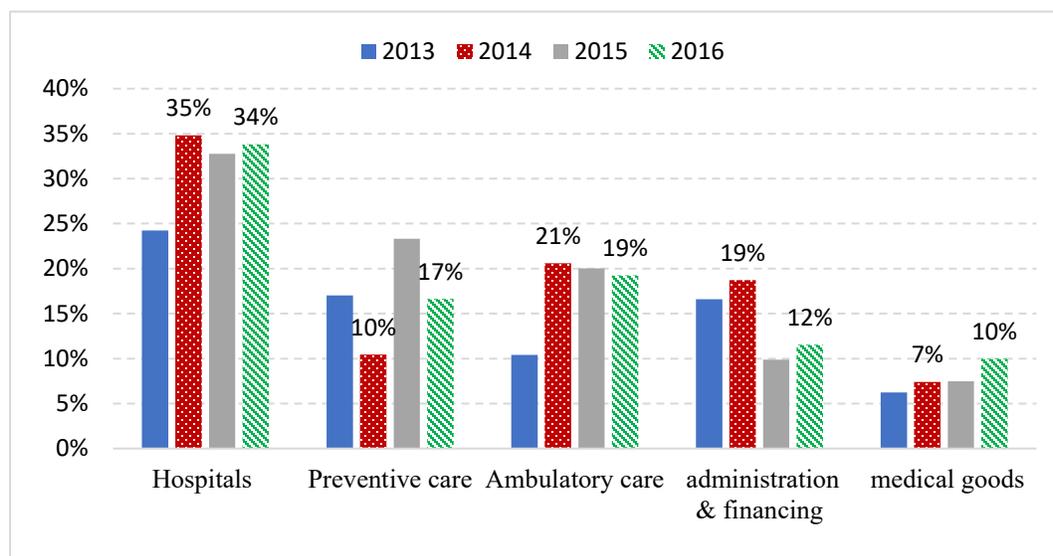


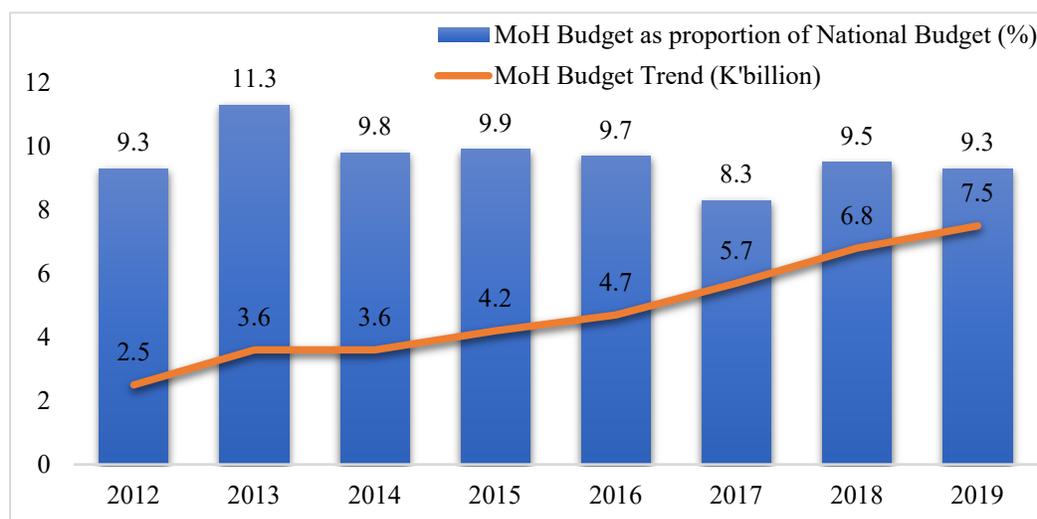
Figure 54: Distribution of the Health Expenditure, 2013–2016, NHA 2016



Government Budgetary Allocation to Health

The government budgetary allocation to the MoH increased during the 2014-2019 period, though it remained as a constant proportion of the national budget at about 9% for most years (Figure 55)

Figure 55: Ministry of Health annual budgetary in Kwacha (billions) and as a percentage of the national budget, 2012-2019



Qualitative Findings on Health Financing

Interviewees reported that although the actual allocated amounts to the health sector have increased during NHSP, this as a percentage of government budget has largely remained the same at just under 10%.

The flow of government funding was reported to be very erratic especially in 2019, when facilities received an average of three grants. This has affected implementation of many planned activities as well as attainment of health sector NHSP targets. From the field visits, health facilities reported to have accumulated debts due to the erratic funding. Facilities have thus been operating on alternative funding such as: RBF support from donors, house rentals to staff, collection of user fees by hospitals, provision of high cost/premium services in hospitals, partner support through provision of fuel, materials or financial support among others. Some rural facilities also have food production as a measure to improve their sustainability.

Though a shortage of accounting staff was reported, there has been an improvement in the accountability and reporting over received funds, hence a reduction in audit queries. Facilities have taken cost containment measures such as cutting down unnecessary costs, bulk purchasing of consumables and improvement of financial management practices involving active reporting, accounting and strengthening of internal controls

Recommendations on Health Financing

The GRZ has attempted to increase health sector budgetary allocation over the NHSP implementation period. However, this increase has not been adequate due to corresponding inflation levels. In addition, because of the ongoing fiscal space challenges in the country, there is need to consider the following recommendations to enhance the use of available resources:

- Explore the use of selected sin taxes and the re-introduction of the medical levy for increased resource mobilization
- Broaden the tax base to include the informal sector in order to increase revenue flows
- Revenue leakages along the continuum of revenue collection have been identified as a major weakness; hence policies to strengthen revenue collection must be explored
- Enhance efficiency in resource allocation and utilization as recommended by the World Bank report on their analysis of national health accounts, public expenditure review and the public expenditure tracking and quantitative service delivery survey and equity analysis.
- Improve the risk pooling and redistributive capacity of government funds
- Strengthen the strategic purchasing mechanism
- Strengthen overall public financial management (PFM) and information systems at the lower levels.

Leadership and Governance

Introduction

The NHPS set out to develop an accountable, transparent, and equitable health sector that will respond to the needs of the Zambian people by the year 2021.

On health system leadership and governance, the NHSP set out to implement an efficient and effective decentralized system through the following interventions: devolve governance to all districts by 2021, strengthen partner coordination in the health sector, strengthen the health legislative & regulatory framework to improve service delivery; and strengthen the enforcement of regulations in the provision of health service delivery at all levels of health care for both the public and the private sector.

The NHSP’s M&E framework identified the following core set of indicators for monitoring progress in health sector leadership and governance: proportion of service (health post, health center & hospital) and management (province, district) units with functional governance structures for implementing, coordinating and monitoring the NHSP 2017-21; proportion of service units with planning & reporting tools relevant to each level of care (policies, strategies, operational plans, M&E framework), presence of functional coordination & partnership mechanism from community to national level, and proportion of management staff with required skills and knowledge for their functions

Key findings at mid-term:

- The coordination and implementation management structures for NHSP are in place and functioning.
- Program-specific plans are generally well-aligned with NHSP – though there is lots of duplication and overlap in program planning.
- Health sector partnership coordination is well functioning

Table 16 below summarizes the performance in some of the core health sector leadership and governance indicators outlined in the NHSP.

Table 16: Performance of Core NHSP Leadership and Governance Indicators

Indicator	Baseline (year)	Target 2018	Achievement	Comments
Governance				
Service (HP, HC & Hospital) and management (province, district) units with functional governance structures for implementing, coordinating and monitoring NHSP 2017-21 (%)	(Administrative Reports, 2016)	100%	100%	Governance structures are virtually present in all the institutions.
Service units with planning and reporting tools relevant to each level of care (policies,	(Administrative Reports, 2016)	100%	100%	The target was achieved, although

Indicator	Baseline (year)	Target 2018	Achievement	Comments
strategy, operational plans, M&E framework) (%)				there is a need to better define the indicator.
Presence of functional coordination and partnership mechanism from community to national level	(Administrative Reports, 2016)	TBA	Yes	The target was achieved, although there is a need to better define the indicator.
Appropriate steward stability to implement policies				Qualitative assessment.
Programmes implemented according to NHSP (annual reports, performance reports etc.) (number)				Qualitative assessment.

Qualitative Findings for Health Sector Leadership and Governance

Sector Leadership and Stewardship

Most of the interviewees knew of and had copies of the NHSP and its M&E framework. Planning and reporting tools such as action plans, planning handbooks and HMIS tools were also reported to be available across the different management units (facilities and administrative units). However, implementation of most planned activities did not happen due to erratic funding that also affected adherence to service standards. Alignment of District action plans and the NHSP was also said to have been rushed as the planning process had not given adequate time to align the two.

Clear management structures are in place across the health system. They are clearly structured with clear roles and responsibilities for the different actors. Committees are in place that hold meetings on a regular basis to review performance indicators of service delivery e.g., maternal death reviews, and neighborhood health committees (NHCs) at the community level have persons at the DHO level appointed to be responsible for the coordination and implementation of their activities. It was reported that some of these key structural positions were unfunded and the persons working in these positions got demotivated from holding the positions in an acting capacity, leading to turnovers. Despite the reported frequent top management turnovers in some of the affected management units, stewardship was still described as stable - though these changes in top leadership disrupted management functions since management units had to adapt to new leadership styles after change of leadership.

Health sector leadership ethos was described as good and embracing teamwork across various levels. For instance, communication between management and staff or supervising authorities was described as regular and good, with submission of required reports as scheduled, and use of modern technologies such as Skype and WhatsApp to share information and hold meetings. DHOs also reported to engage traditional leaders and religious leaders in their regular meetings.

Respondents at the district level and below found decentralization to be working well, with some finding the decentralization reform to be mainly affecting first level hospitals, health centers and health posts. Technical supportive supervision, technical assistance and mentorship were provided to the decentralized units in a top-down manner as follows: by the provincial health office (PHO) to the district health office (DHO), and by second level hospitals & DHO to first level hospitals, health centers and health posts. The supervision entailed activities such as quarterly visits and semi-annual performance assessments. Supervisors however reported that there was a challenge of transport availability for provision of this technical support and they sometimes had to travel with their own vehicles to undertake supervisory responsibilities due to the challenge of transport availability.

Sector Partnership and Coordination

Health sector coordination with stakeholders has generally worked well, though interviewees expressed concerns over partners having their own way of doing things, which is at times not in synch with MoH priorities. Whereas partners working with health centers and health posts are coordinated through the DHOs, partners can work directly with the hospitals.

National level coordination structures are well established. The highest coordination structure is the Annual Consultative Meeting which meets once a year with ministerial representation, ambassadors/high commissioners, heads of bilateral development cooperations, UN system, multilaterals and civil society involved in the health sector.

The NHSP is being implemented through the processes and systems of the Government's Medium-Term Expenditure Frameworks, and the annual budgets & plans. Sector Wide Approach (SWAp) principles are being followed to ensure the functioning of the coordination structures in the health sector. To support the implementation of the SWAps, regular policy meetings are being held and are an effective forum for regular appraisal of national health policies and strategies. The meetings provide a platform to review

current policies, propose modifications or conceive new policies. They also aim at monitoring progress made and decide upon potential changes to the approved work programme. The agenda items of the policy meetings are primarily derived from Technical Working Group meetings namely: the Troikas (community paramedics, GRZ, civil society, non-governmental organizations, faith-based organizations, non-faith-based organizations and private health providers), meetings between representatives for stakeholders (Troika members) and the MOH Permanent Secretaries. The technical working groups meet as required, but at least quarterly, to monitor and advise on the development and implementation of the annual work programmes. The technical working groups report to the policy meetings through the secretariat as required and as decided in the policy meetings, and different task forces and sub-committees can be formed within the framework of each technical working group.

Some of the things that have worked well include: working with the Ministry of Education to facilitate school health programs, local government & MPs involvement in infrastructural development; including local companies as committee leaders for programs such as the malaria program, working with village heads to enhance community structures, having local companies support the maintenance of staff houses, and integrating some partner activities with public health sector activities through joint meetings. Partners have also offered the health sector with support such as transport provision by John Snow, Inc (JSI) and partners seconding their staff to offer health services.

Some of the key challenges with partnership and coordination include: autonomous partners that don't involve public health sector management in their activities such as planning and budgeting, partners operating with a financial year different from the ministry of health, and reliance on partner support for certain health activities that a program support focuses and thus other areas are left out.

Sector Governance and Regulatory Mechanisms

Interviewees reported that governance mechanisms for the health sector were working well. Governance mechanisms identified from the interviews include committees and regulatory authorities. Regulatory authorities e.g., General Nursing Council of Zambia (GNC), HPCZ and Zambia Environmental Management Agency (ZEMA) have an oversight role and visit the facilities as well as nursing schools to ensure that the institutions are conducting their activities while meeting the required standards. Interviewees however reported that ZEMA had been collecting fees but hardly visited facilities to inspect waste disposal to ensure it met standards.

Health sector regulation also happened through boards, committees and through the PHO. The PHO was reported to oversee private facilities while management boards met quarterly to oversee activities in hospitals. There were numerous committees that played different roles e.g., Neighborhood Health Committee, Health Centre Advisory Committee, social welfare committee, and anti-gender violence committee.

Engagement of elected leaders was ad hoc and mainly to solicit their support e.g., construction of facilities and digging of boreholes. Involvement of elected leaders would not only lead to some developments in the health sector but also introduce political interference over health sector matters.

Conclusions and Recommendations for Health Sector Leadership and Governance

- Strengthen the alignment of sector planning processes to minimize duplication and over-planning
- Develop and update crucial governance tools including developing the National Health Act and revising the national health policy in line with the UHC aspirations
- Strengthen health sector decentralization by increasing district level health sector finance management autonomy

Chapter 5: Health Impact Analysis: Morbidity and Mortality

The NHSP set out to improve life expectancy at birth, reduce neonatal, under five & adult mortality, and decrease the burden of disease for all citizens. The NHSP M & E framework identified seven indicators for health impact analysis that covered aspects of morbidity, mortality and life expectancy as outlined in

Key findings at mid-term:

- According to preliminary results from the ZDHS 2018, under-five mortality has declined from 75 to 61 per 1,000 live births, but the pace of decline is slowing down and the target was not met.
- Neonatal mortality increased from 24 to 27 per 1,000 live births between ZDHS 2013/14 & 2018, and accounts for 44% of all under-five deaths.
- The preliminary report ZDHS 2018 shows that adult mortality rate among women has declined strongly between ZDHS 2013/14 & 2018.
- The cause of death data from the Ministry of Home Affairs using ICD10 for 2018 and the verbal autopsy survey for 2015/16 (SAVVY) showed that major infectious diseases (malaria, TB and especially HIV) were still leading causes of death. The data also showed that NCDs were prominent among the leading causes of illness especially diseases of the circulatory system, and that neonatal conditions alongside infectious diseases were the main leading cause of child deaths.

Table 17 below.

Table 17: Performance of key health impact indicators outlined in the NHSP

Indicator	Baseline (year, source)	Target 2018	Achievement (source)	Comments
Life expectancy and Mortality				
Life expectancy at birth (years)	Males: 49.2 (2010 Census) Females: 53.7 (2010 census)	52.2 56.8	Males: 60.2 (WHO estimates 2018) Females: 64.4 (WHO estimates 2018)	Life expectancy at birth has increased significantly for both males and females.
Under-5 mortality per 1000 live births	75 (ZDHS 2013/14)	59	61 (ZDHS 2018)	Good progress, still below target.
Neonatal mortality per 1000 live births	24 (ZDHS 2013/14)	18	27 (ZDHS 2018)	Mortality has increased.
Infant mortality per 1000 live births	45 (ZDHS 2013/14)	30	42 (ZDHS 2018)	Modest decline.
Maternal mortality ratio per 100,000 live births	398 (2013/14 ZDHS)	250	278 (2018 ZDHS)	Good progress; however, still above target.

Adult mortality 15-49 years (per 1000 population)	8.4 (ZDHS 2013/14)	8.1	4.4 (ZDHS 2018, women only)	Major decline likely.
Morbidity				
Morbidity burden contributed by the 10 Top Causes ill-health (%)	N/A	N/A		Indicator had no baseline or targets set.

Mortality Rates and Ratios

Under-five, child and neonatal mortality

Child mortality has been declining since the mid-1990s. The average annual rate of reduction was 5.7% between ZDHS 2001/02 & ZDHS 2007, 7.7% between ZDHS 2007 & ZDHS 2013/14, and 4.1% between ZDHS 2013/14 & ZDHS 2018. This shows that the pace of decline in child mortality has progressively been slowing down. Based on ZDHS 2013/14 & 2018 data, under-5 mortality declined from 75 to 61 deaths per 1,000 live births, with the largest drop in mortality being among children aged 1-4 years (from 31 to 19 deaths per 1,000 children). However, this data refers to the 5-year period preceding the survey (2014-2018) and therefore only a partial reflection NHSP 2017-2021 achievements at MTR.

Neonatal mortality increased from 24 to 27 deaths per 1,000 live births between ZDHS 2013/14 & 2018, and is thus far off the Zambia 2021 & global 2030 SDG target of 12 deaths per 1,000 live births. Neonatal deaths were also 44% of all under-five deaths in ZDHS 2018, which is an increase from 32% of all under-five deaths in ZDHS 2013/14.

Figure 56 below shows the long-term trends of neonatal, infant, child and under-five mortalities in Zambia.

Adult mortality

As indicated in *Table 17* above, ZDHS 2018 preliminary report had mortality data for women only. Zambia's progress in reducing adult mortality was thus assessed by comparing ZDHS 2013/14 & 2018 data on mortality for women. The data was disaggregated into five-year age groups as shown in *Figure 57* below and it shows a reduction in mortality for all ages. Between ZDHS 2013/14 & 2018, the probability of a 15-year-old girl dying before the age of 50 decreased from 294 to 169 per 1,000 among women aged 15-49. *Figure 57* below shows how mortality per 1,000 women has changed between ZDHS 2013/14 and 2018 for different age groups.

Figure 56: Neonatal, infant, child and under-five mortality Zambia, ZDHS, 1992-2018

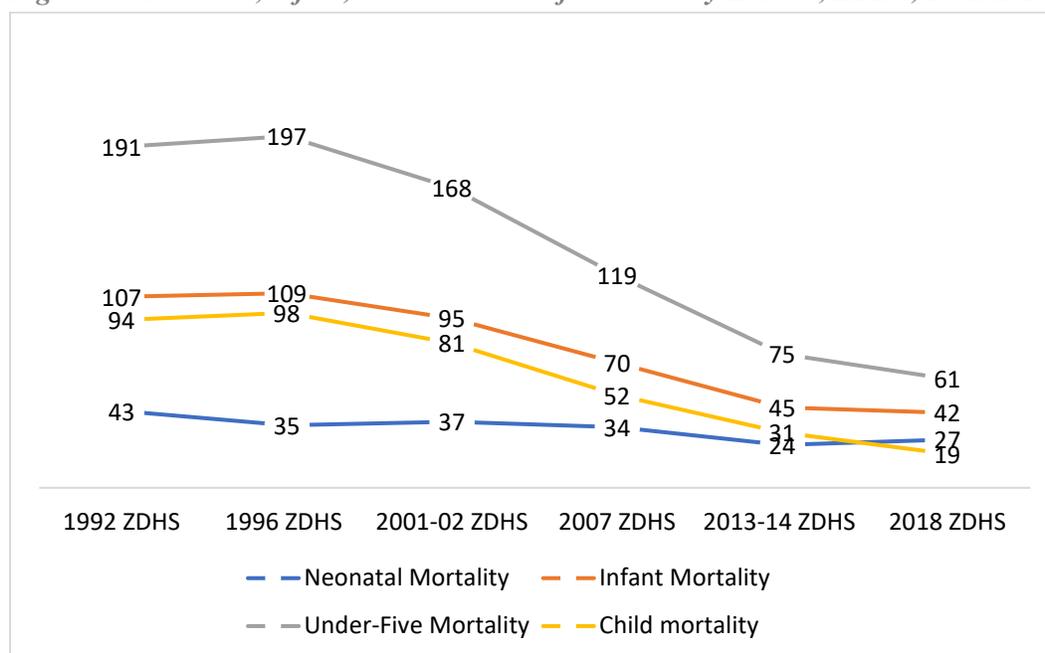
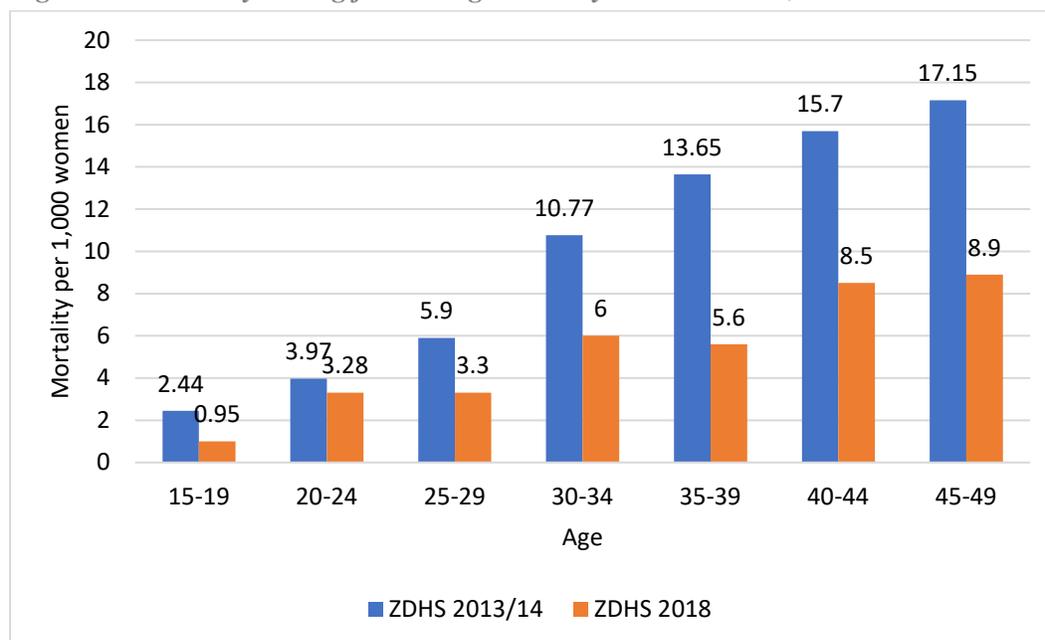


Figure 57: Mortality among females aged 15-49 years in Zambia, ZDHS 2013/14 & 2018



Leading Causes of Mortality

At a 10 per 1000 crude death rate, one would expect about 160,000 deaths in Zambia annually. However, the total number of deaths recorded in the civil registration and vital statistics (CRVS) system were 40,884, 39,150 and 29,085 deaths in 2016, 2017 and 2018 respectively. This implies that only about 25% of deaths are captured by the CRVS system and yet the number of deaths in the CRVS system is much higher than that generated through hospitals and the DHIS2 system. Furthermore, there is no use of the

international classification of diseases (ICD) in the DHIS2, which further limits the utility of DHIS2 data. It is also not clear why the CRVS deaths recorded in 2018 were 10,000 deaths fewer than in previous years.

WHO's ANACOD tool was used to analyse the causes of death. The top causes of death in Zambia are as shown in *Table 18* below. HIV is still by far the leading cause of death in Zambia, accounting for 20% of deaths in spite of high treatment coverage. Among infectious diseases, besides HIV, the other leading causes of deaths were tuberculosis (4th in Zambia) lower respiratory infections (9th in Zambia) and other infectious diseases (5th in Zambia). Surprisingly, malaria did not show up in the leading causes. The leading causes of deaths among non-communicable diseases include cerebrovascular disease (2nd in Zambia), other digestive diseases (7th in Zambia), diabetes mellitus (8th in Zambia), other cardiovascular diseases (10th in Zambia), hypertensive disease (11th in Zambia), other malignant neoplasms (12th in Zambia) and nephritis/nephrosis (14th in Zambia). With respect to child health and nutrition, three causes of deaths among the major causes of deaths in Zambia: conditions arising during the perinatal period (3rd in Zambia), prematurity and low birth-weight (6th in Zambia), and protein energy malnutrition (13th in Zambia). Overall, no cause of death could be ascertained for 19% of all deaths in 2018.

It must be noted that this list of leading causes of deaths in Zambia (*Table 18*) carries considerable uncertainty as cause-grouping affects the rankings, and the quality of ICD certification & coding was not ascertained.

Table 18: Leading causes of deaths in the Zambian population, CRVS system 2018

Ranking	Causes of death across ages	No of deaths	% of total deaths
1	HIV	3635	19.9
2	Cerebrovascular disease	817	4.5
3	Other conditions arising during the perinatal period	701	3.8
4	Tuberculosis	654	3.6
5	Other infectious diseases	632	3.5
6	Prematurity and low birth weight	526	2.9
7	Other digestive diseases	509	2.8
8	Diabetes mellitus	419	2.3
9	Lower respiratory infections	412	2.3
10	Other cardiovascular diseases	389	2.1
11	Hypertensive disease	381	2.1
12	Other malignant neoplasms	331	1.8
13	Protein-energy malnutrition	316	1.7
14	Nephritis and nephrosis	304	1.7
	Ill-defined diseases (ICD10 R00-R99)	3500	19.1

Table 19 below presents findings on the leading causes of deaths among children under five years based on CRVS 2018 data. Neonatal causes took the first three places and cumulatively accounted for 41% of deaths among under-fives. Surprisingly, malaria only appears in 12th place and based on CRVS 2018 data, malnutrition, lower respiratory diseases, HIV and diarrheal diseases caused more under-five deaths than malaria. More than one-fifth of recorded deaths could not be classified and similar to Table 18 above, the CRVS system data for Table 19 also carries considerable uncertainty.

Table 19: Leading causes of death among children under five years in Zambia, CRVS system 2018

Ranking	Causes of death among children under 5	No of deaths	% of total deaths
1	Other conditions arising during the perinatal period	701	19.3
2	Prematurity and low birth weight	526	14.5
3	Birth asphyxia and birth trauma	261	7.2
4	Protein-energy malnutrition	252	7.0
5	Other infectious diseases	135	3.7
6	Lower respiratory infections	130	3.6
7	HIV	98	2.7
8	Other Congenital anomalies	96	2.6
9	Fires	93	2.6
10	Diarrhoeal diseases	55	1.5
11	Other neuropsychiatric disorders	52	1.4
12	Malaria	45	1.2
13	Endocrine disorders	43	1.2
14	Congenital heart anomalies	41	1.1
	Ill-defined diseases (ICD10 R00-R99)	765	21.1

Life Expectancy

In the last national census conducted in 2010, life expectancy was estimated at 49.2 years for males and 53.7 years for females, respectively. The WHO estimates for 2018 show that life expectancy at birth increased to 64.4 years for females and 60.2 years for males as at 2018, implying that the NHSP target had been exceeded as at MTR. Some of the contributing factors to the improved life expectancy include high coverage of ART and the declining adult & under-five.

Morbidity

Indicators of morbidity (incidence or prevalence) were obtained from either population-based surveys or special reporting systems and compared against baseline data to assess progress in the control of illnesses. These have been presented in the respective sections for the different illnesses. For instance, looking at

malaria as the second leading cause of morbidity in Zambia, the section discussing ‘Malaria Control’ showed that there has been a slight reduction in the number of malaria cases observed since 2016.

Table 20 shows the ten leading causes of illness in Zambia based on outpatient department (OPD) data from the HMIS. This data shows that respiratory infection (non-pneumonia) was the most commonly diagnosed illness by clinicians and closely followed by malaria. There were however challenges with analysing the leading causes of morbidity with certainty as there is limited diagnostic equipment for confirming causes of illness. Diagnostic capacity for illnesses such as malaria has however improved such that 95% of malaria cases are now laboratory confirmed. This means that the morbidity of malaria can be interpreted with more certainty compared to the illnesses that still have limited diagnostic capacity.

Table 20: Top ten causes of illnesses in Zambia, HMIS 2018

Ranking	Causes of illness	No of cases
1	Respiratory Infection: non-pneumonia	7,259,738
2	Malaria Cases	5,196,570
3	Diarrhoea (non-bloody)	1,679,368
4	Muscular skeletal and connective tissue (not trauma)	1,378,168
5	Digestive system: (not infectious)	945,342
6	Skin Diseases (not infectious)	428,071
7	Dental Carries	398,335
8	Throat Diseases	391,835
9	Respiratory Infection: pneumonia	361,888
10	Trauma: Other Injuries, wounds	310,492

Recommendation:

The NHSP has not attained most of its health impact indicators – especially maternal and under-five indicators. There is a need to integrate extensive community interventions through CHAs and CBVs so as to expand coverage of health interventions that can help reduce the mortality rates among pregnant women, neonates, infants and children under five years. Strengthening of these community interventions shall also improve NHSP performance against its set targets.

Chapter 6: Financing of the NHSP

Introduction

The NHSP has the overall health care financing goal of mobilizing sufficient financial resources to fund its implementation while ensuring equity and efficiency in resource mobilization, allocation, and utilization during the NHSP period. The different strategies aimed at achieving this overall goal are also focused on the attainment of universal health coverage (UHC) through provision of financial risk protection while expanding access to health care services.

The health care financing objectives of the NHSP are:

- Reduce the budget gap in the health sector by mobilizing adequate and sustainable financial resources;
- Ensure effectiveness, efficiency, and equity in resource allocation and utilization; and
- Ensure transparency and accountability in resource utilization.

Development of a health financing strategy was identified as a key priority activity within the NHSP. This strategy would be used to guide financing policy in the health sector. With the support of cooperating partners, the MoH developed a comprehensive Health Care Financing Strategy (HCFS) to run from 2017 – 2027. The overall goal of the HCFS is to attain adequate, sustainable and predictable financing through existing and new sources for improved health outcomes.

This chapter assesses the extent to which the NHSP has been funded compared to estimated costs of implementing the Plan by reviewing the costing and financing of the plan. In addition, it assesses the extent to which health sector budgetary allocations and expenditure patterns facilitated or hindered the realization of NHSP targets. The chapter further assesses the efficiency and equity in financing as well as the extent of risk protection. Finally, the chapter provides recommendations for the implementation of the remaining years of the NHSP and beyond.

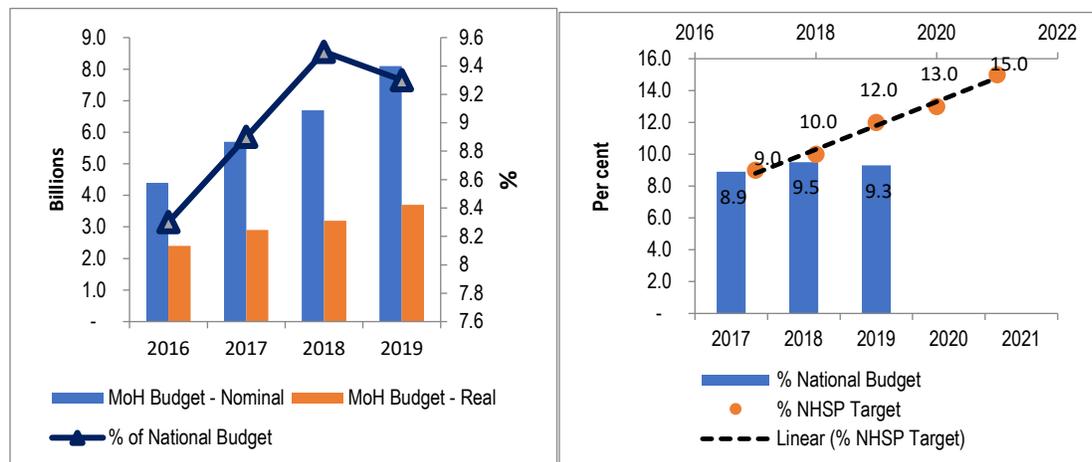
Health Sector Budget: 2017 – 2019

During the NHSP MTR period, nominal budgetary allocations to the health sector increased from K4.5 billion in 2016, representing 8.3% of total government expenditure, to K8.1 billion in 2019, representing 9.3% of total government expenditure. While the increase in nominal terms has been sustained over the MTR period, these increases have not been high enough to fully compensate for the rise in inflation. As shown in

Figure 58, real budgetary allocations (after adjusting for inflation) have increased only minimally in the period 2016-2019. This implies that the increase in budgetary allocation to the health sector has not translated to increased health service and goods provision, since increased budgetary allocation has been eroded by increases in costs of service delivery.

The NHSP targets to achieve the Abuja target of 15% by 2021. Reviewing the current trend so far shows that the GRZ allocates an average of 9% of total government expenditure to the health sector, and the 2021 target is likely to be missed unless concerted efforts are made to create fiscal space to finance the NHSP.

Figure 58: Health sector budgetary allocation in Zambia, 2016 - 2019



Source: National Budgets, NHSP and MTR Stream 2 Report

Estimated NHSP Costs, Revenue Mobilization and Budget Execution

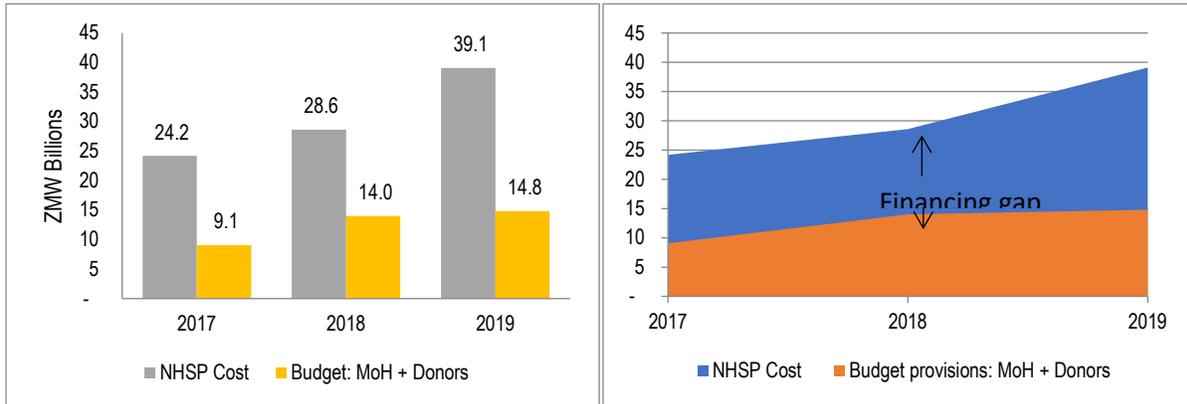
The cost of financing the NHSP was estimated at K139.8 billion (US\$14.3 billion) for the five years of its implementation with the estimated costs for 2017, 2018 and 2019 being K24.8 billion, K28.6 billion and K39.1 billion respectively. The NHSP cost was estimated based on financial needs of the health sector to attain NHSP targets and the total cost of the NHSP 2017-2021 shows that per capita spending has to increase to US\$149 to meet the needs of the health sector. Figure 59 below links the estimated NHSP costs to the budget provision from both the MoH and donors during the MTR period. It is evidently clear that budgetary allocations to the health sector falls significantly below what it takes to financially implement the NHSP.

Total budget allocations by both the government and donors (the two largest financing sources for the health sector in Zambia) were K9.1 billion, K14 billion and K14.8 billion for 2017, 2018 and 2019 respectively. This means that government and donors had mobilized an average 42% of the estimated NHSP costs for the 2017-2019 period. Therefore, the variance between the estimated annual NHSP costs and the actual budget allocations was substantial, averaging 58% for the mid-term review years (The gap between the estimated NHSP cost and health sector financing is however expected to be slightly lower than 58% given that the health sector gets additional funding from employers through payment to insurance schemes and out of pocket expenditure by households that had been estimated at an average of 5% and 12% of current health expenditure respectively in the NHA 2013-2016 report). The inadequacy of NHSP financing has the consequence of compromising the realization of the specific targets set in the NHSP.

The health sector in the country requires additional resources over and above what is currently provided for expenditure. Total health spending as a proportion of GDP was estimated at 4.5% in 2016, which is lower than what many countries with similar income levels spend (NHA 2013-2016). Furthermore,

Current Health Expenditure (CHE) in 2017 was estimated at US\$68 per capita, which is below the estimated minimum expenditure of US\$86 per capita needed to move towards UHC. But in as much as the health sector requires additional resources, it is also necessary to look at what the country has planned to achieve as per NHSP 2017-2021 against what is feasible given the country’s current fiscal constraints.

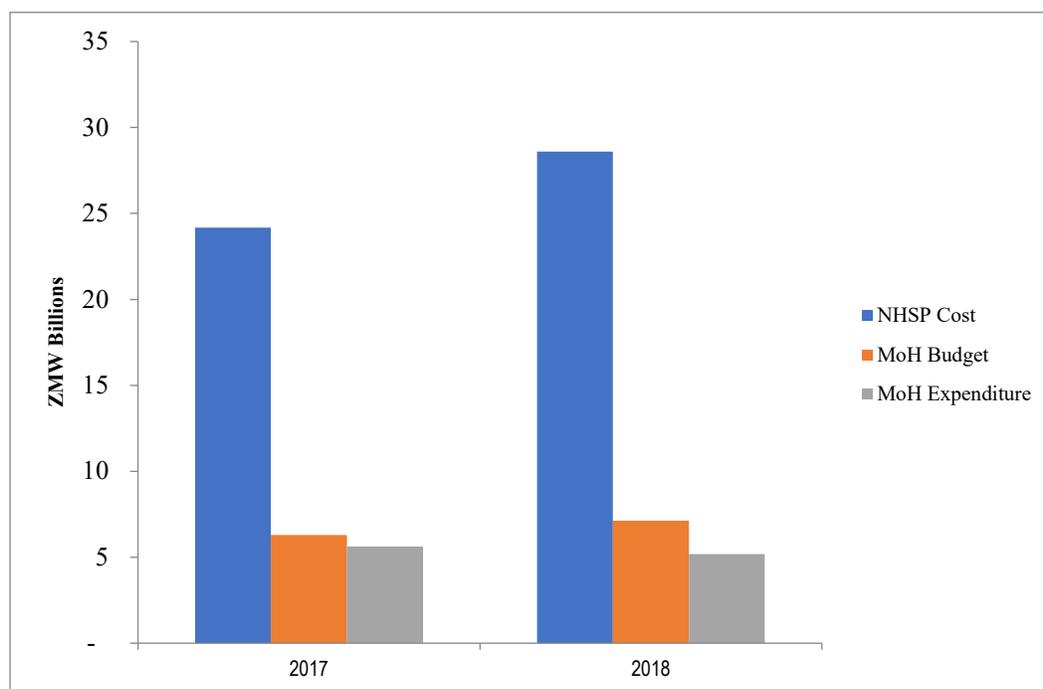
Figure 59: Estimated NHSP costs against budget provision by both MoH and donors, 2017 - 2019



Source:

Notwithstanding the inadequate budget allocations towards the NHSP, budget performance has been lower than 100% due to erratic funding. As shown in *Figure 60* below, total budget provision for the MoH increased from K6.3 billion in 2017 to K7.1 billion in 2018 while total expenditure declined from K5.6 billion to K5.1 billion. This indicates a decline of budget performance from 90% in 2017 to 72% in 2018 in relation to MoH budget provision and a decline from 25% in 2017 to 17% in 2018 in relation to estimated NHSP costs. This picture is likely to have worsened in 2019 given that snapshots from field visits and key informant interviews indicated a further deterioration in budget disbursements.

Figure 60: A comparison of NHSP cost, MoH budget provision and MoH expenditure, 2017 – 2018



Source:

Financing of NHSP Priority Areas: 2017 – 2019

In order to assess how financing may have impacted achievement of NHSP targets, the MTR analyzed financing of priority areas set out in the strategic plan. The NHSP had a total of 36 priority areas that had been identified and costed. Over the five-year NHSP period, the priority areas that were main drivers of cost were HRH (US\$3.2 billion), health infrastructure (US\$2.4 billion), essential drugs, commodities & supplies (US\$2.2 billion), HIV/AIDS (US\$1.0 billion) and malaria (US\$0.9 billion). These represented 22.6%, 17.1%, 15.8%, 7% and 6.5% of the total estimated cost for implementing the NHSP respectively. When viewed by major health systems components, health systems support costs comprising of HRH, infrastructure, health financing, equipment, M & E, and governance were the key drivers of cost, representing 43.7% of total NHSP costs. The remainder of the costs was shared between drugs and medical supplies (15.7%) and programme management (40.6%).

Table 21 below disaggregates MoH budgetary provision and expenditure for 2017 and 2018 by health systems components. The table shows that whereas budget provision to all health system components increased in the first two years of the NHSP, expenditure against these provisions declined while variance increased from 10.5% to 27.3%. The lowest budget performance was recorded by programme management at 41.3% in 2017 and 63.8% in 2018, implying that about half of the MoH budget for programme management was not being disbursed and therefore not spent. Given that programme management comprises all priority areas under service delivery except for drugs and medical supplies, this means that the health service delivery system has borne the heaviest brunt of inadequate financing.

Table 21: MoH budget and expenditure disaggregated by major health system components, 2017 - 2018

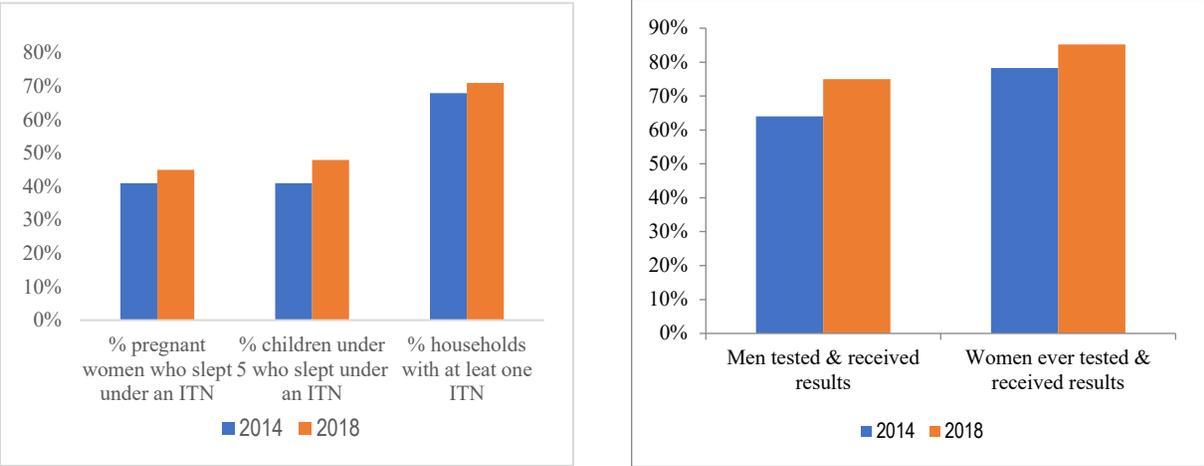
	2017	2018

	Budget (ZMW millions)	Expenditure (ZMW millions)	Variance	Budget (ZMW millions)	Expenditure (ZMW millions)	Variance
Drugs and Medical Supplies	775.3	747	- 3.7 %	892.3	611.6	-31.5%
Programme Management	909.8	534	-41.3 %	1,036.4	375.2	-63.8%
Health Systems Support	4,601.1	4,342	- 5.6 %	5,202.9	4,200.3	-19.3%
o/w Health Wage Bill	3,598.5	3,531	-1.9 %	4,025.8	3,524.4	-12.5%
Total	6,286.1	5,623	-10.5 %	7,131.7	5,187.2	-27.3%

Source: 2018 Annual Financial Report and 2017 MoH Statement

Granted, a huge proportion of donor financing targets health service delivery via vertical programmes and off-budget financing to programs such as HIV/AIDS, Malaria and Reproductive Health. Such financing went a long way in sustaining important health gains for the sector at a time when Government health expenditure was dwindling as shown in *Figure 61* below. For instance, malaria control was sustained as more households had access to ITNs, with more pregnant women and under-five children sleeping under the ITNs. Similarly, the coverage of persons testing for HIV and receiving results increased, which is key to combating HIV/AIDS. Maternal mortality has also declined from 398 to 278 per 100,000 live births between ZDHS 2014 & 2018, indicating that it has become safer for mothers to give birth in the country.

Figure 61: Health systems gains in donor -funded programmes amidst fiscal challenges



Efficiency and Equity in Resource Allocation and Utilization

This section assesses efficiency in the allocation and utilization of funds, equity in health financing, extent of financial risk protection as well as the extent to which UHC is mainstreamed in the strategy.

Efficiency in the allocation and utilization of funds

An overall synthesis of findings from the latest PETS-QSDS (2019) and PER (2018) shows that the health system has been delivering its health services at a higher cost in comparison with other countries - mainly through higher wages and operational costs. This implies that more health care services can be provided from the current public health spending. The PETS-QSDS (2019) observed that budget execution at the district level was weak not only due to erratic funding but also due to delays in transfer of funds between different levels of administration. Inadequate and erratic funding from the Ministry of Health has become widespread and affects all levels of the public health system due to the fiscal challenges the country is facing. Thus, in the short to medium term, funding constraints will persist until other innovative sources of funds kick in as well as the overall fiscal constraints ease.

Given the current constraints arising from an unfavorable macroeconomic environment and diminished fiscal space, enhancing efficiency in the allocation and utilization of existing resources is very cardinal if to attain the aspirations of the NHSP. Consequently, it is necessary to re-examine some of the NHSP strategies and their costs to bring them in line with the available resource envelope. Additionally, removing bottlenecks in the disbursement of funds between various levels will enhance service delivery using existing resources. The HCFS also advocates for introduction of innovative financing modalities for additional resources for the health sector such as through the introduction of 'sin taxes' on cigarettes and alcohol in the short to medium term which also mitigates the health impacts of using these products.

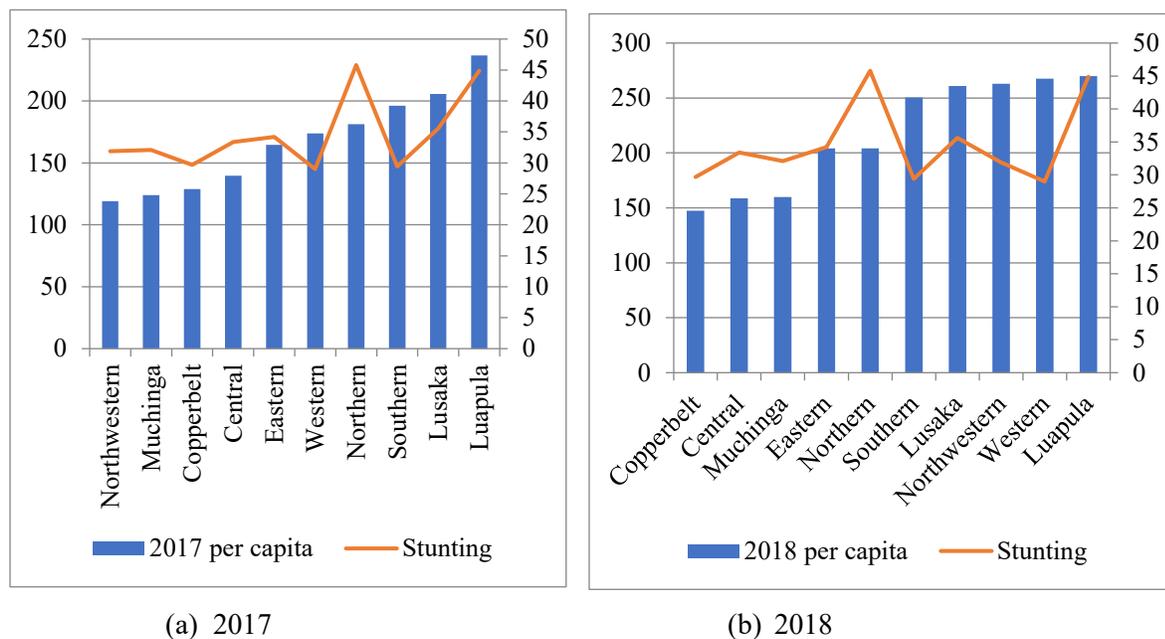
Equity in health financing

Equity in per capita expenditure among regions

The country has been using a needs-based resource allocation formula to allocate operational funding from the MoH headquarters to the districts since 2004. Achieving equity in the allocation of available resources was envisaged through reviewing and strengthening resource allocation formulas for different levels of the health care system given that the gap between health outcomes and expenditure has widened across provinces. An inadequacy in the existing needs-based resource allocation formula to the districts was cited as a likely reason. This is because while the formula has facilitated the distribution of operational grants, it does not cover the distribution of salaries and wages which is dictated by the distribution of health workers. Already the mal-distribution of health workers and how this exacerbates inequities has been observed. Furthermore, new districts were created and the formula has not considered the specific needs of the new districts but merely approximated their needs based on similar districts.

According to the PER (2018), provinces that are already better-off also continually spend more. For instance, Eastern, Luapula, Muchinga and Northern provinces were associated with worse outcomes but had generally lower per capita spending, a suggestion that public funding was exacerbating inequalities in health outcomes across provinces. One notable observation over the 2-year period is the improvement in terms of position for provinces which had generally lower spending and poor health outcomes such as Luapula to higher spending. In the same vein, provinces which were generally well-endowed and had higher spending in prior years such as Lusaka and Copperbelt experienced a decline in terms of position relative to the other provinces. However, there is still more room for improvement to achieve equitable allocation of resources as provinces such as Muchinga and Northern still face lower spending per capita despite poorer health outcomes.

Figure 62: A comparison of per capita expenditure and stunting as a health outcome in Zambian provinces, 2017 & 2018



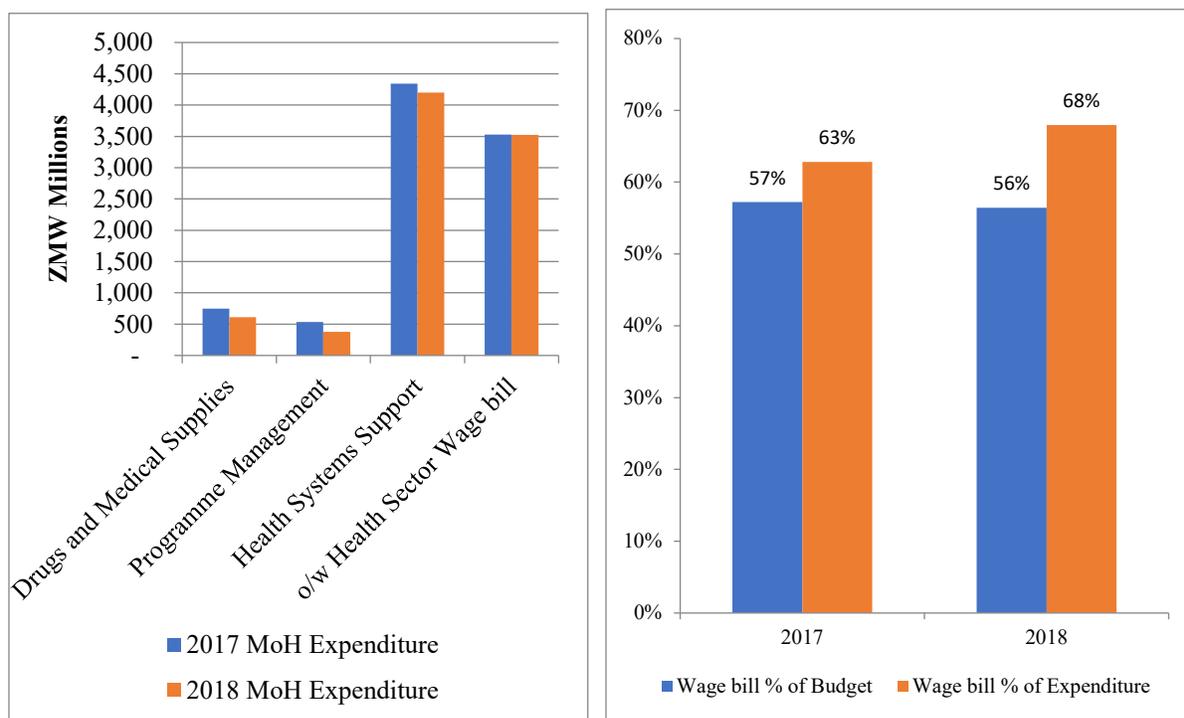
Data Source: Annual Financial reports and 2018 ZDHS Indicators report

Equity in per capita expenditure among health systems components

During the MTR period, there was an increase in recruitments for the health sector which led to an increase in budgetary allocations to human resources. While increased budgetary allocations to human resources are justified, the increases do not match other important service delivery inputs such as programme management and essential commodities that have recorded decline in spending over the MTR period as shown in *Figure 63* below. For 2019, the decline in spending on these other 2 components may even be larger as findings from field visits showed that grants in 2019 were more erratic compared to 2018.

A consideration of the health wage bill shows that Zambia in comparison with its peers has one of the highest health sector wage bills with averaging 54% of total budget allocation to MoH during 2014-2015. During the MTR period the wage bill increased slightly to an average of 56.5% share but in the light of erratic funding to other health systems components, this share increases when actual expenditure is considered. As shown in *Figure 63* below, spending on the health sector wage bill in 2018 was two-thirds of total MoH expenditure. In other words, the reduction in non-wage recurrent spending further exacerbated the situation of recurrent spending not matching spending on human resources to support adequate service provision.

Figure 63: A comparison of health sector expenditure in different health systems components



(a) Comparison by major system components

(b) Comparison of wage bill as share of expenditure

Source: Constructed using 2017 Annual Financial reports and 2018 MoH Statement C

Extent to which UHC is mainstreamed in the NHSP strategy

The country aspires to attain UHC as stipulated in the National Health Policy that underscores government’s commitment to “providing equitable access to cost effective and quality health services as close to the family as possible in a caring, competent and clean environment” (MoH, 2012). To facilitate the attainment of UHC, medical user fees were abolished in rural areas, peri-urban areas, and all primary health care facilities countrywide in 2006, 2007 and 2012 respectively. Additionally, as a key recommendation of the HCFS, Social Health Insurance was introduced through the enactment of the National Health Insurance Bill into law in 2018. The National Health Insurance Act (2018) among other things is set to provide for a sound financing system and support UHC.

Chapter 7: Alignment and Quality of the Health Sector Planning Process

Introduction

The MTR assessed alignment of the health sector planning process using various parameters that included: number of strategies under implementation, alignment of timeframes for the various strategies, alignment of the vision, mission, objectives & strategies of program strategies with the NHSP; alignment of core indicators in the NHSP with program-specific indicators, and the burden of health sector reporting based on the total number of indicators being monitored in the sector.

The MTR further assessed adequacy of the health sector planning process by examining the quality of the NHSP, identifying duplications between related strategies and establishing the feasibility of funding all strategies within the health sector

Alignment of the Health Sector Planning Process

A total of 21 programme/area specific strategies were accessed and reviewed and are listed in *Figure 64* below. It should be noted that the process of developing these very many programme/area specific strategies has financial and time resource implications, which is a source of inefficiency and may not allow enough time for implementation. A closer assessment of each of the strategies showed that the alignment with regards to timeframe is generally good save for 8 strategies - 4 of which pre-date the NHSP, 3 that go beyond the end-date of the NHSP and 1 which was still guiding implementation of activities though expired.

On the cost of delivering the strategies, only 15 of the 21 strategies were costed as shown in *Table 22* below. The costed strategies had a total estimated cost of US\$38 billion and an annual estimated cost of 13% of the GDP, which is way beyond the capacity of the government to finance. The NHSP and the National Action Plan for Health Security (NAPHS) accounted for 90% of the estimated costs though we note that the NAPHS is multi sectoral.

Figure 64: Strategies under implementation within the health sector

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2018	
1 Zambia National health strategic plan							2017						2021							
2 National malaria elimination strategic plan							2017						2021							
3 Reproductive, maternal, newborn, child and adolescent health and nutrition communication and advocacy strategy								2018					2021							
4 Multi-sectoral National Action Plan on Antimicrobial Resistance							2017													2027
5 The Zambia National Newborn Scale-up Plan							2017						2020							
6 National Strategic Plan for Tuberculosis Prevention, Care and Control							2017						2021							
7 Adolescent health strategy							2017						2021							
8 Integrated community case management							2017						2021							
9 National HIV Self Testing strategic framework																				
10 Implementation Framework & Clinical Guidance for Viral Hepatitis Prevention & Treatment										2019			2021							
11 National HIV AIDS Strategic framework							2017						2021							
12 Implementation framework & Guidance for Pre-Exposure Prophylaxis of HIV Infection								2018					2020							
13 National operational plan for the scale-up of voluntary medical male circumcision (VMMC) in Zambia							2016						2020							
14 National action plan for health security										2019										2023
15 National biomedical laboratory strategic plan								2018					2022							
16 National alcohol policy implementation plan																				
17 Non communicable diseases and their risk factors				2013																2016
18 Health in all policies								2017					2021							
19 Zambia's master plan towards elimination fo NTD						2015							2020							
20 National Community Health Strategy										2019			2021							
21 Immunisation Comprehensive Multi-Year Plan (c-MYP)								2017					2021							

Table 22: Estimated costs of implementing health sector strategies in Zambia

	STRATEGIC PLAN	Cost in US\$ Millions	Cost of the strategy as a % of overall estimated cost	As a % of the NHS
1	National Health Strategic Plan	14,300	40.01%	
2	National Malaria Elimination Strategy	694	1.94%	4.85%
3	Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (RMNCAHN) Communication and advocacy strategy	3	0.01%	0.02%
4	Multi-sectoral National Action Plan on Antimicrobial Resistance	20	0.06%	0.14%
5	The Zambia National Newborn Scale-up Plan	13	0.04%	0.09%
6	National Strategic Plan for Tuberculosis Prevention, Care and Control	155	0.43%	1.08%
7	Adolescent Health Strategy	12	0.03%	0.09%
8	Integrated Community Case Management	67	0.19%	0.47%
9	National HIV Self Testing Strategic Framework	Not costed		
10	Implementation Framework & Clinical Guidance for Viral Hepatitis Prevention & Treatment	Not costed		
11	National HIV AIDS Strategic Framework	2,302	6.44%	16.10%
12	Implementation Framework & Guidance for Pre-Exposure Prophylaxis of HIV Infection	Not costed		
13	National Operational Plan for the Scale-up of Voluntary Medical Male Circumcision (VMMC) in Zambia	136	0.38%	0.95%
14	National Action Plan for Health Security	17,702	49.53%	123.79%
15	National Biomedical Laboratory Strategic Plan	Not costed		
16	National Alcohol Policy Implementation Plan	Not costed		
17	Non-Communicable Diseases and their Risk Factors	173	0.49%	1.21%
18	Health in All Policies	Not costed		
19	Zambia's Master Plan towards Elimination of NTD	856	0.45%	1.12%
20	Comprehensive Multiyear Plan	72.68	1.52%	3.90%
21	National Community Health Strategy	558.17	0.50%	1.29%
	OVERALL COST	37,175		

Burden of Reporting Within the Health Sector

The review took a count of the number of indicators in the different strategic plans as a proxy for the burden of reporting. 19 of the 21 strategic plans reviewed had indicators for monitoring their implementation and over the medium term, the health sector is tracking and reporting on a total of 931 indicators as shown in Table 23 below.

Table 23: Number of indicators in the different health sector strategic plans

	STRATEGIC PLAN	Number of indicators
1	Zambia National Health Strategic Plan	228
2	National Malaria Elimination Strategic Plan	17
3	Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (RMNCAHN) Communication and Advocacy Strategy	65
4	Multi-sectoral National Action Plan on Antimicrobial Resistance	84
5	The Zambia National Newborn Scale-up Plan	14
6	National Strategic Plan for Tuberculosis Prevention, Care and Control	72
7	Adolescent Health Strategy	59
8	Integrated Community Case Management	16
9	National HIV Self Testing Strategic Framework	6
10	Implementation Framework & Clinical Guidance for Viral Hepatitis Prevention & Treatment	20
11	National HIV AIDS Strategic Framework	34
12	Implementation Framework & Guidance for Pre-Exposure Prophylaxis of HIV Infection	3
13	National Operational Plan for the Scale-up of Voluntary Medical Male Circumcision (VMMC) in Zambia	
14	National Action Plan for Health Security	20
15	National Biomedical Laboratory Strategic Plan	
16	National Alcohol Policy Implementation Plan	239
17	Non-Communicable Diseases and their Risk Factors	34
18	Health in All Policies	
19	Zambia's Master Plan towards Elimination of NTDs	
20	Immunization Comprehensive Multi-Year Plan (c-MYP)	20
	TOTAL	931

The review did not set out to systematically assess the reliability of the indicators. However, some indicators were found to be not measurable. For instance, in the Multi-Sectoral National Action Plan on Antimicrobial Resistance, over 50% of the indicators were not measurable and majority lacked baselines. In other instances, indicators were just statements e.g., in the National Strategic Plan for Tuberculosis Prevention, Care and Control where one of the indicators was “Percentage of laboratories conducting culture, line probe assay or phenotypic DST, or a combination of these, in which a formal quality management system is being implemented that aims to achieve accreditation according to international standards.”

Alignment of Mission, Objectives & Strategies of Program Plans with the NHSP

The goals, visions and missions of the reviewed programme strategies were generally well aligned with the NHSP. Objectives of programme strategies were also well aligned except for the following instances:

- i) The National HIV/AIDS Strategic Framework aims to put 81 per cent of People Living with HIV (PLHIV) on ART while the NHSP target is 90%. It also aims to achieve 72.9 per cent of PLHIV having viral load suppression and yet the NHSP target is 90%;
- ii) In the NHSP, addressing antimicrobial resistance was only limited to conducting a situation analysis yet the Multi-Sectoral National Action Plan on Antimicrobial Resistance was far much more ambitious;
- iii) The National Alcohol Policy Implementation Plan set out to offer prevention, treatment, referral and rehabilitation services whereas the NHSP had a narrower perspective of controlling alcohol use among adolescents and controlling alcohol use as a risk factor for the control of NCD.

There were also observed cases of overlapping objectives between strategies. For instance, the objectives for HIV prevention through Voluntary Medical Male Circumcision (VMMC) as detailed in the National HIV AIDS Strategic Framework and in the National Operational Plan for the Scale-up of Voluntary Medical Male Circumcision (VMMC) were the same, implying that the latter could perhaps suffice as an implementation framework for VMMC interventions.

Quality of the NHSP

The MTR indicated a seemingly poor prioritization of the NHSP with 30 Goals, 150 objectives and 561 strategies to be implemented over a period of 5 years. Poor presentation was also observed and major weakness related to:

- i) Repetition of an activity within the same priority area but under different objectives e.g., under Primary Healthcare (PHC), one of the activities reads “*Develop a framework of innovations for enhancing gender-sensitive community health systems and service delivery models*” while another activity reads “*Enhance demand creation for gender-sensitive community health services*”;
- ii) Repetition of an activity across priority areas e.g., the activity of maintenance of infrastructure and equipment is captured under PHC as “*Strengthen maintenance and rehabilitation of infrastructure and equipment*” and under Infrastructure as “*Strengthen maintenance and rehabilitation of infrastructure, equipment, and transport at all levels*”;
- iii) Inadequate strategic focus of the strategy, where activities were presented as strategies. For instance, “*Train riders of both motorcycles and bicycle ambulances in basic maintenance so that the service can be done at Health centre level*” was enlisted under strategic interventions for Transport.

Additionally, the estimated cost of \$ 14.3 billion for delivering the strategy seems to be too high and unrealistic. This is largely driven by program management costs (40.6%), human resources (22.6%), infrastructure (17.1%), and, pharmaceuticals and medical supplies (15.7%). Not much is known about the source, quality and assumptions of the unit costs that were used to estimate the NHSP resource needs. Furthermore, the costing of the NHSP was largely driven by two ‘competing’ objectives;

- i) As a basis for strategic planning and evidence-based decision making; and
- ii) As a basis for resource mobilization.

Table 24: Summary of priority areas, objectives and strategies of the NHSP

	Priority area	Goal	Objectives	Strategies	% of NHSP Cost
4	Health Service Delivery System				
4.1	Primary Health Care and Community Health	1	10	43	0.0
4.2.1	Reproductive and Maternal Health	1	7	30	2.6
4.2.2	Child Health	1	2	16	0.8
4.2.3	Nutrition		5	19	1.8
4.2.4	Adolescent Health	1	3	14	
4.3	Communicable Diseases				
4.3.2	Malaria	1	3	10	6.5
4.3.3	HIV/AIDS	1	4	19	7.0
4.3.4	Sexually Transmitted Infections	1	1	9	
4.3.5	TB	1	6	24	2.1
4.3.6	Viral Hepatitis	1	4	11	0.0
4.3.7	Neglected Tropical Diseases	1	1	10	0.8
4.4.	Public Health Surveillance and Disease Intelligence	1	5	20	0.0
4.5	Epidemic Preparedness and Response, and Emerging Issues	1	3	18	0.2
4.6	Non-Communicable Diseases	1	11	34	0.0
4.7	Hospital Services	1	5	18	0.0
4.7.1	Surgical, Obstetric, and Anesthesia Services	1	3	6	0.0
4.7.2	Eye Health Services	1	5	6	0.0

	Priority area	Goal	Objectives	Strategies	% of NHSP Cost
4.7.3	Pediatric Services	1	5	13	0.0
4.7.4	Renal Health Services	1	4	7	
4.8	Emergency and Mobile Health Services	1	2	10	
4.9	Diagnostic Services	1	6	23	0.3
4.10	Imaging Services	1	8	24	0.0
4.11	Blood Transfusion Services	1	8	21	0.1
4.12	Ear, Nose, and Throat (ENT) Services	1	5	12	0.2
4.13	Nursing and Midwifery Services	1	8	25	1.6
4.14	Pharmaceuticals and Medical Supplies	1	6	17	15.8
5	Integrated Health Service Support Systems				
5.1	Leadership and Governance		6	27	0.0
5.2	HRH	1	4	27	22.6
5.3	Health Care Financing	1	3	20	0.1
5.4	Health Information Technology and Research				0.4
5.5	Infrastructure, Equipment and Transport	3	7	28	20.6
	Total (34 priority areas)	30	150	561	

Chapter 8: Strengths, Weaknesses, Opportunities & Threats in the Sector

Introduction

The MTR conducted a facilitated group discussion to undertake an internal (Strengths and Weaknesses) and external (Opportunities and Threats) analysis of the health sector environment. The SWOT tool was supplemented with the 7S organizational strategic analysis tool for internal environment analysis and with the PESTELI analytical tool for the external environment. *Table 25* and *Table 26* below provide a general summary of the SWOT analysis findings

Analysis of Health Sector Internal Environment (Strengths and Weakness)

Table 25: Summary of the Health Sector Internal Environment Analysis

Internal Environment Scan		
Variable	Strengths	Weaknesses
Strategic focus	- NHSP vision is aligned to sector policies and national priorities	- Some NHSP targets are too ambitious - Too many indicators to track performance
Structure for implementation	- Establishment structure expanded to meet the needs of the health sector	- Staff not distributed equitably (rural vs urban) e.g. Muchinga and Eastern Provinces
Systems to support implementation	- Adequate information systems available to support implementation	- Available information systems not integrated (No data warehouse)
Shared values by different stakeholders within the health sector	- Most staff upholding shared values	- Some institutions have no service charter e.g., hospitals, health centers, health posts, PHOs, DHOs, headquarters etc. - Inadequate induction of new staff
Style of management / leadership	- Transformative leadership - Good political will	- Inadequate leadership skills at some levels
Staff presence	- All health facilities have at least one qualified staff	- Inadequate staffing levels against the approved establishment - Staff in acting positions for a long time
Skills amongst staff	- Good availability of skilled staff e.g. Health workers, administration staff etc.	- Inadequate skills mix e.g., Some facilities do not have midwives

Analysis of Health Sector External Environment (Opportunities and Threats)

Table 26: Summary of the health sector external environment analysis

External Environment Scan		
Variable	Opportunities	Threats
Political issues	- Strong political support for the health sector	- Political Interference (Skewed infrastructure development, staffing & resources allocation)
Economic issues – funding environment	- Improved road infrastructure - Setting up of the Industry Development Cooperation (IDC) - Good donor support for the health sector	- Shrinking fiscal space in the country - Depreciation of the local currency
Sociological issues – societal/healthcare worker values, attitudes and beliefs	- Goodwill from the traditional leadership	Negative cultural and religious practices Gender stereotyping Early marriages and teenage pregnancies
Technological issues:	- Mobile technology for the provision of mobile health services - Use of technology to provide IEC -	Online health services and self-consolations
Ecological issues:	-	
Legislative issues – legal framework	- Mainstreaming of health in all policies in other line ministries and agencies	- Lack of a general health legislation for the health services - Weak enforcement of alcohol and substance abuse policy -
Industry issues:		

Chapter 9: Overall Conclusions and Recommendations

Introduction

The NHSP 2017 -2021 in Zambia was developed with a main goal of making all Zambians healthy so that they could contribute to the country’s development agenda as guided by the National Vision 2030 that aims at transforming the country into a middle-income, prosperous nation by 2030”. The country’s Seventh National Development Plan and the Vision 2030 both “prioritized health as a key to economic investment”. In late 2019, the MoH, together with key stakeholders including national and sub-national policy makers and managers; community representatives and civil society, professional organizations, academia and development partners, embarked on a participatory journey to undertake a MTR of the NHSP. The results of this MTR are to guide the implementation of the next half of the current NHSP, while at the same time laying the foundation for the development of the next NHSP

Overall Conclusions

The country has made tremendous progress in the review in the health sector since the publication of the current NHSP. Clear and bold investments particularly focusing on the expansion of health infrastructure, increase in health workers, essential medicines and medical supplies; and health management information systems have been made by government and her partners since 2017. These investments have started bearing fruits – with visible noticeable results seen in the assessment of availability and coverage of essential services across the country. These in turn have translated to significant achievements in the control and containment of various causes of morbidity and mortality in the country.

Nevertheless, this achievement has not been without challenges. First – the continued challenges in the country’s fiscal space have affected the rate and pace of the planned health sector investments as per the NHSP. In addition, challenges still exist in coordination of the sector especially in the area or harmonization of priority setting, planning, budgeting and sector monitoring. This has led to instances of over-planning, duplication and overlaps in various program and sector-wide planning processes, lack of harmonization between planning and sector monitoring; all resulting in challenges in tracking of overall sector progress.

Key Recommendations

The following are the key recommendations from the NHSP 2017-2021 MTR:

- **NHSP monitoring and evaluation:** There is a need to improve on the quality of data available for tracking NHSP performance. This will involve measures such as reviewing quality and type of data that is captured routinely in the national HMIS against NHSP targets, integrating the different EHRs used in different facilities and levels of management with the national HMIS, and ensuring that manual cards and data registers do not stock out so as to prevent data loss. There is also a need to capture additional monitoring and evaluation indicators for health service delivery from the *National Surgery, Obstetrics and Anesthesia plan, National Cancer and Prevention Plan, the National Eye and ENT Plan* and any other strategic plans developed after the NHSP
- **Healthcare financing:** The health sector needs more fiscal space for implementation of the NHSP strategies. This can be achieved through measures to increase health sector revenue such as

targeting the private sector and introducing medical levies. The health sector financing also requires strengthening of capacity towards improved allocation and utilization efficiency. This will require measures such as strengthened financial management systems at the decentralized level, strategic purchasing and increased risk pooling and redistributive capacity. Improved efficiency will aid in achieving more NHSP targets using the available resources.

- **Leadership and governance:** There is need to develop and revise governance tools to ensure that they are aligned with the NHSP as well as the UHC goal. It is also necessary to improve alignment of planning processes to reduce over planning and duplication of the planning process. Strengthening of decentralization by increasing financial autonomy at the decentralized level will also improve the performance of NHSP priorities.
- **Community health services:** With the NHSP aiming “*to provide equitable access to cost effective, quality health services as close to the family as possible,*” strengthening of community health services will make it possible to expand coverage of NHSP priority targets for most of the health service delivery, health education and capturing of data at the community level. This requires training of and strengthening the capacity of CHAs and CBVs, who are the key players at the community level
- **Infrastructure, HRH and essential medicines and medical supplies:** There is a need to improve upon equity in the distribution of these health systems, both geographically and across the levels of health service delivery. This requires general measures such as development of guidelines, norms and standards for HRH and infrastructure to ensure that investments and distribution are guided by need. It also requires specific measures such as improving financing of essential medicines and medical supplies, increasing focus on maintenance of infrastructure and medical equipment, and increasing skills mix for HRH to increase the availability and quality of all health services due to the general public