Zambia Health Sector Public Expenditure Review

Collins Chansa

Netsanet Walelign Workie

Moritz Piatti

Thulani Matsebula

Katelyn Jison Yoo

December 2018

1818 H Street NW, Washington, DC 20433
Telephone: 202-473-1000; Internet: www.worldbank.org

1 2 3 4 19 18 17 16

Contents

Tables

Figures

Acknowledgment

This report was prepared by the Health, Nutrition, and Population (HNP) Global Practice of the World Bank Group. The study was led by Collins Chansa and Netsanet Walelign Workie in close collaboration with Moritz Piatti, Thulani Matsebula, Katelyn Jison Yoo, Magnus Lindelow, Pia Schneider, and Nicolas Rosemberg. Ina-Marlene Ruthenberg (Country Manager), Paolo Carlo Belli (Program Leader, Human Development); and Uzoamaka Gilpin, Emeline Dicker, and Silke Seco-Grutz (DFID−Zambia) provided technical guidance. Data collection was undertaken by the task team with support from Bruce Ernest.

The contents of this report were discussed and validated by the national Health Care Financing Technical Working Group (HCFTWG) in Zambia after three rounds of iterations. This group is led by the Director for Policy and Planning at the Ministry of Health and comprises stakeholders from various government ministries and departments, multilateral and bilateral cooperating partners, aid agencies, nongovernmental organizations, and the academia. The authors are grateful to all the members of the HCFTWG for insights and noteworthy contributions.

Lastly, the authors thank the following people for comprehensively reviewing the initial draft report and for providing comments that have been used to enhance the quality of the report: Pia Schneider, Owen Smith, and Jane Chuma (World Bank, HNP) and Emeline Dicker (DFID−Zambia). Administrative and editorial support were provided by Gertrude Mulenga Banda, Yvette Atkins, Daniela Hoshino, Charity Inonge Mbangweta, Cathleen Chuma Sosopi, and Claire Jones.

Abbreviations

CHE	Current Health Expenditure
DFID	U.K. Department for International Development
DHMT	District Health Management Team
DHO	District Health Office
GDP	Gross Domestic Product
GGE	General Government Expenditure
GGHE-D	General Government Health Expenditures from domestic sources
GRZ	Government of Zambia
HAQ	Health Access and Quality
HIPC	Heavily Indebted Poor Countries
HNP	Health, Nutrition, and Population
HCFTWG	Health Care Financing Technical Working Group
HRH	Human Resources for Health
IFMIS	Integrated Financial Management Information System
LMIC	Lower-Middle-Income Country
MCDMCH	Ministry of Community Development, Maternal, and Child Health
MDG	Millennium Development Goal
MOH	Ministry of Health
MTEF	Medium-Term Expenditure Framework
NCD	Noncommunicable Disease
NGO	Nongovernmental Organization
NHA	National Health Accounts
NHI	National Health Insurance
OOP	Out-of-Pocket
PE	Personal Emolument
PEFA	Public Expenditure and Financial Accountability
PEH	Public Expenditure on Health
PER	Public Expenditure Review
PFM	Public Financial Management
PHC	Primary Health Care
PHO	Provincial Health Office
RBF	Results-Based Financing
SAG	Sector Advisory Group
STI	Sexually Transmitted Infection
THE	Total Health Expenditure
TI	Training Institution
U5	Under Five
UHC	Universal Health Coverage
WDI	World Development Indicators

Executive Summary

The Zambian government has outlined an ambitious rights-based approach to health care provision as outlined in its national health policy. Specifically, the government is determined to achieve universal health coverage (UHC) by providing all its citizens with access to free quality health care services through the public health system. To examine trends and patterns in health expenditures and to identify opportunities for achieving value for money and equity, the Zambian government, with technical and financial support from the World Bank and the U.K. Department for International Development (DFID), conducted a public expenditure review (PER) of the health sector. This review covers 2006−2016 and builds on the PER that was produced in 2009. This report shares the results of the PER and provides key policy recommendations on how to address the existing challenges.

Key Findings

Level and composition of overall expenditure in the health sector

Overall level of health spending in Zambia makes up a small share of Zambia's gross domestic product (GDP). Total current health expenditure (CHE) as a share of GDP at 4.5 percent in Zambia is slightly above the average spending in other lower-middle-income countries (LMICs) around the world but lower than the Sub-Saharan Africa regional average of 5.4 percent and a number of LMICs in Sub-Saharan Africa. Further, total CHE per capita spending in Zambia at US$60 in 2016 is below the average for LMICs around the world (US$82) and the regional average for Sub-Saharan Africa countries (US$85).

Though government health spending has been growing in both nominal and real terms, the growth rate is insufficient to transform the health sector from being donor dependent in the near future. The government contributed 41 percent of total CHE on average per year over 2011−2016 which is at the same level of donors' contribution of 42 percent of total CHE on average per year during the same period. This implies that donor spending in Zambia is still high despite the country's graduation to a LMIC in 2011. Furthermore, growth in donor expenditure in the health sector has been much faster and more consistent than growth in government health spending during the period under review. Consequently, government health spending as a share of general government expenditure (GGE) at 8 percent and as a share of the GDP at 1.7 percent are very low. This level of spending is far below the national target, regional aspirational target (that is, the Abuja Declaration), and spending norms in other LMICs. This suggests that there is inadequate prioritization of health in Zambia. In addition, it appears that there is no strategy in place to transition from donor support even though several prominent donors have indicated that they will wind up their support in the near future.

A large amount of donor funds in the health sector in Zambia are earmarked for HIV/AIDS and channeled through vertical programs. Specifically, an annual average of 70 percent of the total funding from donors in the health sector over 2015−2016 was spent on HIV/AIDS and sexually transmitted infections (STIs). Moreover, a large share of the total HIV/AIDS funds (64 percent) are managed by aid agencies and nongovernmental organizations (NGOs). While earmarking is designed to provide sufficient resources to address the HIV/AIDS pandemic—which is among the top 10 causes of morbidity and mortality in Zambia—other priority diseases and conditions such as malaria, tuberculosis, reproductive health, and child malnutrition do not receive as much donor support as HIV/AIDS. This

reinforces the common argument that earmarking reduces efficiency in resources allocation and capability of the government to optimize total funding across all programs.

A considerable amount of donor funding in the health sector in Zambia is off-budget. On-budget donor expenditure on health as a share of total donor spending in the health sector was about 24 percent on average over 2011−2016, with significant reductions in years when institutional reforms were initiated. For instance, in 2013 and 2016, only 2 percent and 10 percent of the donor expenditure was on-budget, respectively. This could be attributed to inadequate confidence in the existing public financial management system in Zambia and/or preferences by donors to implement vertical projects where results are more visible. Nonetheless, provision of financial support through vertical programs is problematic because it undermines the stewardship role of the government and its ability to allocate funds strategically. This tendency also perpetuates weaknesses in government systems and is not institutionally sustainable.

Size of public expenditure on health

Public expenditure on health constitutes a small share of total health spending in Zambia, and this will make it difficult to expand access to quality health services to the poor. The amount of public spending on health is dictated by commitments of the government and donors. Over 2011−2016, public expenditure on health as a share of total CHE was about 47 percent on average per year. Low level of public spending on health in Zambia will make it difficult to achieve universal health coverage (UHC) because a sufficient amount of domestic resources channeled through the public health system have a higher likelihood of driving countries toward the attainment of UHC (see Kutzin 2016).

Composition and distribution of public expenditure on health

A large share of public expenditure on health in Zambia is dedicated at the district level. This conforms to the government's aspiration to provide quality health services through a primary health care (PHC) approach. However, public expenditures on health at secondary- and tertiary-level hospitals have also been increasing. This raises questions on the effectiveness of the PHC approach, particularly the extent to which community-based structures are being used to create demand for health services as outlined in Zambia's transformational agenda for the health sector.

There has been a rapid increase in expenditure on personal emoluments (PEs) in the health sector which has crowded out current and future investments in the public health system. Expenditure on PEs in the health sector as a share of the total public expenditure on health has increased significantly from 25 percent in 2006 to 62 percent in 2016. Further, the health wage bill as a share of the total public sector wage bill increased from 9 percent in 2006 to 16 percent in 2011 before dropping to 14 percent in 2016. The rising spending on PEs in the health sector is due to regular increments in salaries and wages for all civils servants and increased recruitment of health workers during the period under review. This has contributed to the high cost of health service delivery in Zambia and leaves little room for infrastructure development (including civil works, medical equipment, maintenance and repair); procurement of medicines, vaccines, and other medical supplies; and provision of outreach services. The share of expenditure devoted to PEs in the health sector in Zambia is above the norms in other LMICs and Sub-Saharan Africa which is 45 percent and 40 percent, respectively.

Despite a substantial increase in public expenditure on drugs and medical supplies, the level of spending is still low, and availability of drugs at public health facilities is erratic. The annual rate of growth in public expenditure on drugs and medical supplies was estimated at 156 percent on average per year between 2012 and 2016 compared to 53 percent during 2006–2011. Further, public expenditure on drugs and medical supplies as a share of the total public expenditure on health has increased significantly from 3 percent in 2006 to 16 percent in 2016. However, this level of public spending is still significantly lower than the African regional average of 33 percent. Low expenditure on drugs contributes to the erratic supply of drugs at public health facilities in Zambia and an unmet need for quality health care.

Budget performance and value for money

The Ministry of Health (MOH) has an elaborate planning and budgeting system but its effectiveness is hampered by poor budget execution and absorption of funds. Foremost, budgets are not sufficiently protected against economic shocks, and this has negative consequences on the predictability of funding, medium-term planning, and service delivery. With the exception of 2016, budget execution at the district level was fairly good during the period under review but this was not the case at the other levels of the public health system. Importantly, budget execution rate for drugs and medical supplies at 67 percent on average per year perpetuates problems in the procurement and management of drugs and medical supplies. On the other hand, absorption of the available funds at the district level was estimated at 50 percent, which is very low. Low absorption of funds at the district level is mainly due to late release of funds from the Ministry of Finance to the districts, and from the districts to the health facilities.

Districts receive operational grants directly from the Ministry of Finance, but they are not yet on the Integrated Financial Management Information System (IFMIS). Further, financial reports that are generated through the IFMIS at the MOH headquarters are not detailed enough because the IFMIS was not customized to suit the needs of the health sector. Compounding the problem is that the IFMIS is being implemented alongside other accounting packages which creates high transactions costs as accountants have to run different systems to suit the needs of the government and partners. As such, it is difficult to determine the total resource envelope, utilization levels, and how funds are used in the health sector. Further, the reporting format for the government financial reports is not user-friendly.

Despite having a low score on access and quality, Zambia has better maternal health outcomes than several peer countries. This means that Zambia is effective at translating the available services into better maternal health outcomes. However, this is not the case for child health services. Poor prioritization and inefficiencies in service provision contribute to low access and quality scores in Zambia and variations in maternal and child health outcomes.

Implementation of successive human resources for health (HRH) strategic plans has contributed to a significant increase in the training, recruitment, and retention of health workers in Zambia. Unlike other components of the public budget, HRH has been protected against fiscal austerity measures such as wage and hiring freezes as the health workforce continued to rise even when such measures were in place. Consequently, the staffing deficit for core health workers reduced from 69 percent in 2005 to 43 percent in 2016 while the number of skilled attendants per 10,000 population also increased from 8 to 11 providers between 2005 and 2016.

Despite notable achievements in HRH, there is still considerable under-provision of staff given the country's needs, population size, and population dispersion. For instance, staff distribution is skewed toward urban areas and there is an imbalance in the skills-mix particularly for doctors. About 80 percent of all the doctors in Zambia work in four provinces (Lusaka, Copperbelt, Southern, and Central) with Lusaka Province claiming 48 percent of all the doctors in Zambia. It was further observed that some of the health workers in Zambia are significantly underutilized.

Although there is an apparent need for more health workers, it will be increasingly difficult to recruit more health workers in the public sector due to budgetary constraints. The total public wage bill has reached unsustainable levels and the government is currently implementing measures to cut the total public wage bill. This implies that a number of the graduates from private and public health training institutions will probably not be recruited by the government over 2018−2021. For example, in 2018, the Ministry of Finance only provided treasury authority for the recruitment of an additional 1,000 health workers which is far below the annual training output of 5,217.

Procurement of drugs and the system distributing drugs and medical supplies is inefficient. There is no link between the IFMIS and the government's electronic procurement system, leading to a situation whereby multiyear framework contracts are signed outside the IFMIS. Because contract management is entirely out of the system, the IFMIS internal budgetary controls do not apply and each contract has to be checked manually to ensure compliance with available budgetary allotments. Poor contract management has contributed to the high debt for drugs and medical supplies.

Public expenditure on new infrastructure in the public health system has increased over the years but there is minimal focus on maintenance and repair. Expenditure on maintenance and repair is about 1 percent of the total public expenditure on infrastructure. Further decomposition of public expenditures on maintenance and repair shows that maintenance of buildings consumes 50 percent of the available resources.

Equity in financing and use of health services

The gap between health outcomes and expenditure has widened across provinces and districts. The most urbanized provinces in Zambia (Lusaka, Copperbelt, and Southern) have the greatest share of public expenditures on health. Further, provinces and districts with the worst health outcomes also receive the lowest per capita expenditure. As the marginal return to health investments are higher in low-performing regions, allocative inefficiencies will persist and probably increase if the variations are not corrected.

Zambia uses a needs-based resource allocation formula to distribute operational grants from the Ministry of Finance to the districts. The expenditure pattern in 2010 shows that the formula was being effectively applied. However, proliferation of districts from 72 in 2011 to about 116 in 2018 has made it difficult to continue applying the district resource allocation formula. Further, when PEs are incorporated into the formula, there are significant deviations from the norm. This suggests that PEs are a key factor in how financial resources are distributed in Zambia.

Out-of-pocket (OOP) health spending makes up a small percentage of the total CHE in comparison to peer countries. Among other reasons, this could be attributed to the free user fees policy and other social protection programs in the country. Consequently, results from the

equity study show a decline in the number of households incurring catastrophic health payments across all the socioeconomic quintiles, particularly for the poorest households. However, low OOP spending could be a sign of forgone care.

Increasing fiscal space for health

There is limited potential to generate additional revenue for the health sector except for efficiency gains. Specifically, mobilization of additional resources from the government is limited given the huge public debt, high public wage bill, and arrears. With constricted budgetary room, it is not possible to reprioritize the government budget and free up some money for the health sector. Further, given the current macroeconomic environment and large informal sector, raising additional domestic resources through sin taxes and health insurance will be difficult. With respect to user fees, secondary and tertiary hospitals have been raising significant revenue which has helped them to cushion the costs of their operations. However, there is inadequate information on how much revenue is actually generated from user fees, and guidelines on how the money should be managed and/or utilized are not available. Lastly, external financing is already high, and the best option would be to sustain the current levels of donor support in light of Zambia's LMIC status.

Recommendations

Based on the findings, below are some key recommendations that the government and other stakeholders operating in the health sector could use to address the identified challenges:

(a) There is need for an increase in the government budgetary allocation for nonwage recurrent expenditure as a share of the total government discretionary expenditure and for sustained growth in health expenditure commensurate with the growth in GGEs. Most importantly, the MOH in collaboration with the Ministry of Finance a strategy on how the country will transition from donor support is urgently required.

(b) Low investments in capital items, drugs, vaccines, and medical supplies diminishes the effectiveness of the available human resources, quality of health care, and value for money. There is need for these areas to be adequately financed.

(c) Given the high public debt, public sector wage bill, and other statutory commitments, fiscal space in the overall government budget will most likely constrict further. Thus, it will be critical for the Ministry of Finance to put in place mechanisms for protecting funding for essential services such as HRH, drugs and medical supplies, and operational grants at the district level so that there are no disruptions in service delivery.

(d) Poor contract management has contributed to the high debt for drugs and medical supplies. It is highly recommended that all procurement contracts, particularly multiyear framework contracts, are linked to the IFMIS.

(e) Health expenditures vary considerably across provinces and districts and are only marginally associated with poverty and other health needs. This will exacerbate inequities in health over time given that a large portion of the public expenditure on health is in better-performing districts. A new resource allocation formula is

urgently required so that the process of determining budgetary allocations is objective, transparent, and needs-based.

(f) Low predictability of funding both in terms of volume and timeliness of disbursements has contributed to poor budget performance particularly low absorption of funds. To avert this problem, there is need to ensure that funds are disbursed in line with agreed budgets and according to established timelines.

(g) To increase accountability and performance at the PHC level, the government could consider disbursing the operational grants for district hospitals and health centers directly from the Ministry of Finance to the health facilities. Experiences can be drawn from health facilities implementing results-based financing (RBF) and schools in the education sector in Zambia which receive operational grants directly from the Ministry of Finance.

(h) The health sector in Zambia is donor dependent. Considering that donor support will be required in the interim, the government needs to strengthen its public financial management system to build trust and encourage donors to channel their funds through the government budget. For this to happen, the MOH needs to increase accountability and transparency with regard to accounting and financial reporting especially at district level. The Ministry of Finance also needs to come up with a user-friendly format of reporting income and expenditure as the current government financial reports (blue books) are not user-friendly.

(i) A considerable amount of donor funding in the health sector in Zambia is off-budget. Going forward, it will be important for donors to make greater use of government systems as this will enhance the stewardship role of the government, promote national ownership, and increase aid effectiveness.

(j) Secondary and tertiary hospitals have been raising significant revenue from user fees which has helped them to cushion the costs of some of their operations. To increase transparency and accountability in the usage of these funds, comprehensive guidelines are a necessity. Further, there is need for legislature to support the retention and use of user fees revenues at the health facilities.

(k) Distribution of the available health workers is inequitable, and their productivity is low. While managers at the provincial and district levels are not responsible for recruitment, there is need for them to ensure that health workers posted to their provinces and districts are optimally distributed. Further, productivity of the health workers could be achieved by implementing RBF initiatives and regularly monitoring the performance of the health workers.

(l) Due to budgetary constraints, it will be increasingly difficult for the government to recruit all the new graduates. Henceforth, there is urgent need for a viable recruitment strategy for employing health workers in the private sector in Zambia and in other countries in the region. For the latter to work, government-to-government contractual obligations could be entered into. Notwithstanding the above, the best option is to recruit and retain the health workers in Zambia as the country still has a huge HRH gap.

1. Introduction

Macroeconomic and Fiscal Context

1. **Zambia has benefited from political stability and strong economic growth.** Since its independence in 1964, Zambia has been a peaceful and politically stable country. The economic outlook has also been generally positive with an improving external and fiscal position founded on a stable macroeconomic environment. In recent years, the key period of success was 2004–2014 when the economy grew at an annual average of 7.4 percent, and the country was upgraded to lower-middle-income country (LMIC) status in 2011. This growth was boosted by a steady increase in copper production and export earnings from the mining industry (Sikamo, Mwanza, and Mweemba 2016) which were complemented by conducive macroeconomic fundamentals in the 2000s (Roger, Smith, and Morrissey 2017). Zambia also received substantial debt relief after it qualified for the Heavily Indebted Poor Countries (HIPC) initiative in 2005 which improved investors' perception of the country (Roger, Smith, and Morrissey 2017).

2. **Since 2013, there has been low economic growth and a very high fiscal deficit.** Zambia is endowed with natural resources but relies heavily on the mining industry (specifically copper),[1] which exposes the country to fluctuations in revenue mobilization whenever there are changes in global demand. A fall in copper prices and delayed and inadequate rains[2] contributed to slower GDP growth and reduction in revenues. By 2015, real GDP growth at constant market prices was 2.9 percent rising slightly to 3.8 percent in 2016 (World Bank 2018c). Slow GDP growth and low revenues coupled with huge public investments in infrastructure, depreciation of the kwacha, and expensive external borrowing from non-concessional sources have led to large fiscal deficits since 2013 (World Bank 2018c). External debt has been rising since 2012 and corresponds to a rise in the fiscal deficit as a share of GDP from 2.8 percent in 2012 to 9.4 percent in 2015, and 5.7 percent in 2016 (table 1). Consequently, a debt sustainability analysis by the International Monetary Fund and the World Bank has elevated Zambia's risk of external debt distress to 'high' from 'medium' (World Bank 2018c).

Table 1: Key macroeconomic indicators: Zambia 2006–2016

	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
GDP growth	7.9	8.4	7.8	9.2	10.3	5.6	7.6	5.1	4.7	2.9	3
GDP per capita (current US$)	1,030	1,103	1,366	1,135	1,456	1,636	1,725	1,840	1,727	1,310	1,275
Inflation (end of period)	8.2	8.9	16.6	9.9	7.9	7.2	7.3	7.1	7.9	21.1	7.5
Revenue (% of GDP)	36.6	18.9	18.8	15.8	15.6	17.7	18.7	17.6	18.9	18.8	17.9
Fiscal deficit (% of GDP)	16.9	−1	−0.7	−2.1	−2.4	−1.8	−2.8	−6.2	−5.4	−9.4	−5.7
Debt-to-GDP ratio	25	21.9	19.2	20.5	18.9	20.8	24.9	25.9	33.3	57.5	53.1

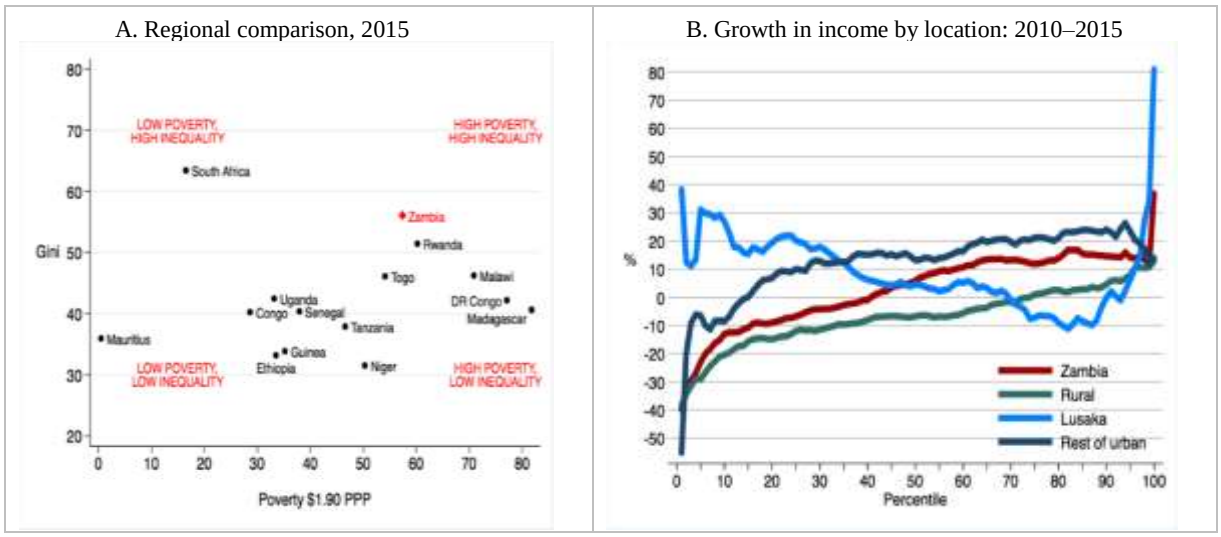
Sources: Government of Zambia (GRZ) Annual Economic Reports (2006–2014); World Economic Outlook Data; World Bank 2018c.

[1] The mining industry accounts for 80 percent of the country's export earnings and over 25 percent of all revenues collected by the government. The mining industry's contribution to GDP is about 10 percent (Sikamo, Mwanza, and Mweemba 2016).
[2] Inadequate rains led to significant reductions in the supply of electricity from hydropower and agricultural production.

Poverty and Shared Prosperity

3. **Poverty remains widespread while the benefits of growth are uneven.** Despite economic progress over the last decade, Zambia has one of the highest poverty and inequality rates in the region (figure 1A). The poverty incidence measured by the population living below US$1.90 per day of purchasing power parity in Zambia was 58 percent in 2015, dropping from 60 percent in 2010 and 63 percent in 2006. Given the rapid population growth of about 3 percent per year, the number of poor people has increased nationwide by 1.2 million (from 7.2 million to 8.4 million) between 2010 and 2015. Economic growth has had a limited effect on poverty reduction as growth has mostly benefited the upper-income and urban population strata (figure 1B).

Figure 1: Poverty and inequality



Source: World Bank 2018a.

Health Status

4. **Over the past decade, coverage and access to health services have improved, leading to improved health outcomes and increased life expectancy (table 2).** Despite these gains, Zambia only managed to meet a few health-related Millennium Development Goal (MDG) targets, particularly in malaria and tuberculosis control but did not fully achieve any of the health-related MDGs. While progress has been significant, it has generally been below the average for LMICs (table 2). And even though Zambia is performing better than other LMICs in reducing maternal mortality, the total fertility rate is almost twice the average for LMICs—and this poses a challenge with regard to attaining the demographic dividend. Furthermore, stunting among under-five (U5) children at 40 percent is high and far above the average for LMICs (table 2).

5. **While communicable diseases are the predominant causes for mortality and morbidity in Zambia, noncommunicable diseases (NCDs) are on the rise.** Over the last decade, there has been a rapid increase in fatal injuries, cardiovascular diseases, cancers, chronic respiratory diseases, diabetes, and other forms of NCDs. Consequently, NCDs are estimated to account for 23 percent of total deaths in Zambia.[3] Given the rising trend in morbidity and mortality due to NCDs, it is predicted that the disease burden and costs of

[3] https://www.who.int/nmh/countries/2014/zmb_en.pdf.

providing health care by the government will increase further, and the financial burden at the household level will rise.

Table 2: Key demographic and health indicators

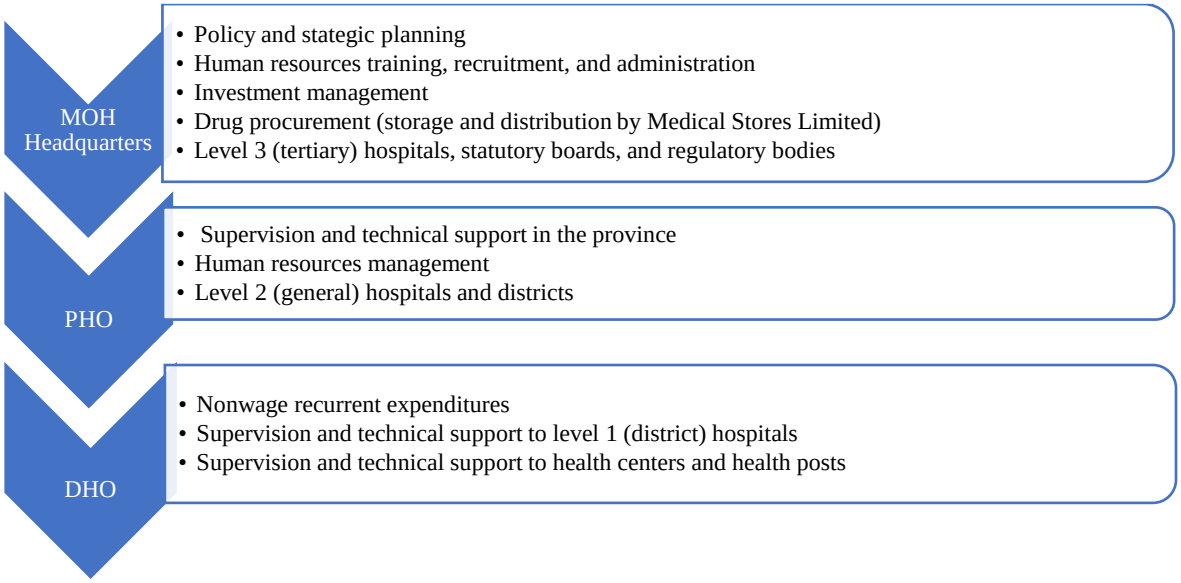
Indicator	Zambia				LMIC (average)
	2005	2010	2015	2016	2016
Population, total (millions)	12.1	13.9	16.1	16.6	—
Fertility rate, total (births per woman)	5.8	5.4	5.0	5.0	2.8
Prevalence of stunting, height for age (% of children U5)	52.5	45.8	40.0	—	32.2
Immunization, DPT (% of children ages 12–23 months)	82.0	83.0	90.0	91.0	81.6
Prevalence of HIV, total (% of population ages 15–49)	13.1	12.3	12.0	11.8	0.6
Incidence of tuberculosis (per 100,000 people)	602.0	495.0	391.0	376.0	227.0
Maternal mortality ratio (per 100,000 live births)	372.0	262.0	224.0	224.0*	257.0*
Mortality rate, U5 (per 1,000 live births)	111.6	82.4	64.9	62.4	50.4
Life expectancy at birth, total (years)	49.6	56.6	61.4	61.9	67.9

Source: World Development Indicators.
Note: DPT = Diphtheria, Pertussis, and Tetanus; Figures for stunting for Zambia are for 2002, 2007, and 2013/14, respectively. *2015 estimates.

Key Features of the Zambia Health System

6. **The 2012 national health policy is the overarching health policy framework in Zambia.** The policy takes a human rights-based approach to health care provision, where all citizens are entitled to basic health care (MOH 2012). The policy is actualized through successive five-year national health strategic plans. Operationally, Zambia's health system is centralized, with delegated responsibilities from the center to the lower levels of the health care delivery system. The Ministry of Health (MOH) plays a dual role of policy formulation and strategic planning and delivery of health services, with provincial and district health offices being upwardly accountable to the MOH headquarters (figure 2). Provincial health offices (PHOs) oversee a number of districts in a province and are responsible for providing guidance in planning and budgeting, service delivery, financial management, procurement, and monitoring and evaluation. Delivery of primary health services is undertaken at district hospitals, health centers, and health posts while district health offices (DHOs) are responsible for district-level planning and budgeting, fiduciary management, and monitoring and evaluation.

Figure 2: Administrative and functional relationships in the health sector



7. **There is significant heterogeneity in how various expenditure items are channeled through the system.** Salaries are for example directly disbursed from the Ministry of Finance to civil servants' bank accounts and do not pass through the Integrated Financial Management Information System (IFMIS) for internal control. Instead expenses are posted to the ledger after they have occurred. Payment management and establishment control is integrated but is done at the public service management division at the Office of the President outside the health sector entirely. As such, there is little autonomy with regard to the management of the payroll and the civil service establishment. Drugs and medical supplies are purchased centrally and allocated to facilities against a shadow budget. Goods and services at the central government level follow government public financial management practices and are subject to rigorous internal budgetary and commitment controls. At the district level, the budget for nonwage recurrent expenditures is received through operational grants. Lower-level health posts or health centers either receive transfers from districts, or goods and services are purchased by the district on their behalf. An overview of the flow of funds by expenditure item is provided in table 3.

8. **User fees have de jure been abolished in Zambia.** In 2006, the government removed medical user fees at all government and missions' health facilities in rural areas. The policy was extended to peri-urban areas in 2007 and to the entire primary health care (PHC) facilities countrywide in 2012. PHC facilities in Zambia include health posts, health centers, and district hospitals. All services provided under these facilities are provided free of charge. Free health services in this context includes all aspects of preventive and curative services including drugs, consultation, laboratory and other medical investigations, and referral services. Further, patients referred from the PHC facilities to secondary and tertiary level hospitals are supposed to be treated free of charge in line with the user fees removal guidelines (MOH 2007). As part of the user fees removal guidelines, a bypass fee is charged to patients who present themselves for treatment at a higher-level health facility without being referred from a lower-level health facility except for emergency cases.

9. **Secondary- and tertiary-level hospitals (and some district hospitals) are allowed to generate revenue through the fast-track system or high-cost sections of the hospital.** At the high-cost (or fast-track) sections of the hospitals, patients pay if they want express services (to avoid queues or congestion) or better outpatient or in-patient services than those provided at the free (or low-cost) sections of the hospital. In addition, some hospitals also operate some prepayment medical schemes where employers/companies, households, and individuals make contributions to access a predefined package of health services when they get sick. However, there are no guidelines nor consistency across hospitals on how much to charge and how the revenues generated should be utilized.

Recent Reforms in the Health Sector

10. **Between 2011 and 2018, four major institutional reforms were implemented within and outside the health sector.** First, in 2011, the PHC function (including the mother and child health program) was transferred from the MOH to the Ministry of Community Development and Social Welfare, and this Ministry was renamed Ministry of Community Development Mother and Child Health (MCDMCH) (GRZ 2018). All structures and institutions that provide PHC (including the Mother and Child Health Unit at the MOH headquarters, DHOs, district hospitals, health centers, and health posts) were transferred to the MCDMCH (GRZ 2018). The main objective of this reform was to increase the demand and utilization of health services through community development and social welfare structures (MOH 2015). However, in 2015, the decision was reversed and the PHC function was reverted to the MOH. In reality, the MCDMCH only executed the PHC mandate for three years (2013−2015).[4] The reversal was the second major health reform in a span of five years.

11. **The third set of health reforms commenced in November 2016 when policy guidance was provided to reorganize the MOH** headquarters into a lean structure responsible for policy, standards, monitoring and evaluation and to strengthen service delivery at the other levels of the public health system (GRZ 2018). However, by the end of 2018, the number of departments at the MOH headquarters rose to 12 from 5 in August 2016. Further, the MOH now has three permanent secretaries—one responsible for health services, another one responsible for administrative services, and the third one for human resources for health (HRH) training. In addition, the University Teaching Hospital was broken down into five specialized hospitals—Adult Hospital, Women and New-born Hospital, Cancer Diseases Hospital, Children's Hospital, and Eye Hospital (GRZ 2018). With these changes, the organizational structure is actually much broader than before. It is envisaged that the new changes will enhance operational efficiency and make it easier for the government to deliver health services to the Zambian people. Outside the health sector, several new districts have been created leading to an increase in the total number of districts in the country from 72 in 2011 to 116 in 2018.[5] Implementation of the aforementioned health reforms in a short period of time coupled with the creation of more districts have affected the planning process, resource allocation, and flow of funds to districts and health facilities in the health sector. The specific effects are highlighted in this report.

[4] While the pronouncement was made in 2011, it took two years to set up the structures at the MCDMCH only for the decision to be reversed after three years. Among the key reasons, the PHC function was reverted to the MOH due to inadequate implementation capacity and structures at the MCDMCH, weak coordination and duplication of roles between the two ministries, and ineffective health sector policy dialogue. See MOH (2015).

[5] At least five of the new districts were not fully functional at the time of this study.

12. **Zambia is in the process of launching two major reforms which will further affect the organization of the health sector.** These are (a) implementation of the revised National Decentralization Policy, and (b) introduction of a National Health Insurance (NHI) scheme. The PHC function (including transfer of PHC staff to local government authorities) is among the front runner for decentralization. If national decentralization is fully implemented, it will affect the manner in which health services are organized, delivered, and financed in the country. As part of this process, the GRZ has introduced a Local Government Equalization Fund to be used by district authorities. By the end of July 2018, only one district (Chibombo) had been decentralized on a pilot basis, but none of the MOH's functions had been decentralized. It is anticipated that approval of the local government bill by Parliament in 2019 will facilitate the decentralization process in all districts countrywide. Transfer of the PHC function from the MOH to district councils will be a major reform that requires adequate preparation to minimize challenges.

13. **The Zambian government is in the process of introducing an NHI scheme.** To this effect, the NHI Act was passed by Parliament on April 9, 2018. The Act postulates that health insurance will facilitate sound financing for the health sector and universal access to quality health care services. The NHI Act provides the legal mandate to establish the NHI management authority, and the NHI scheme. At the time of this study, it was envisaged that implementation of the NHI scheme will be done in a phased manner commencing from 2019 with a view of covering the entire population in the medium to long term. However, depending on the final design and implementation process, the NHI will have a substantial effect on the financing and delivery of health programs and services in Zambia. One of the immediate challenges will be providing insurance cover to the informal sector and indigent people in rural areas. About 84 percent of the labor force in Zambia works in the informal sector (CSO 2015) with very low paying jobs[6] while 77 percent of the people in rural areas were living below the national poverty line[7] in 2015 compared to 23 percent in urban areas (CSO 2016).

Table 3: An overview of flow of funds by expenditure type

Type	Processes at the Central Level	Processes at the District Level
Salaries	Payments for salaries and wages are done electronically across all levels of government. They are being sent directly by the Ministry of Finance to civil servants' bank accounts. Payment and establishment control is managed by the Public Service Management Division with input from human resources management officers at each level of the health system who submit monthly returns of health workers in post. While some of the community health workers are on the government payroll, the majority are not and are paid by cooperating partners.	
Goods and services, and other nonwage recurrent expenditures	Funds are managed through regular government financial management processes and subject to rigorous line item commitment control at point of execution.	Districts receive operational grants for nonwage recurrent expenditures directly from the treasury. A resources allocation formula dictates how much each district receives. At the district level, DHOs distribute the funds to communities, health posts, health centers, and district hospitals. There is no IFMIS at the district level and therefore, authorization and recording process of these funds are not subject to the same level of controls as the central government expenditures.

[6] The average monthly earning in the formal sector where only 16 percent of the labor force works is ZMW 3,009 (US$284) while in the informal sector, where 84 percent of the labor force works, it is ZMW1,214 (US$115). *Source:* CSO (2015).
[7] The national poverty line comprises food and nonfood items to meet a minimum standard of living. The poverty line per adult equivalent per month was estimated at ZMW 214 per month or ZMW 7.13 per day in 2015. This is equivalent to US$29.32 per month or US$0.98 per day in 2015 terms.

Type	Processes at the Central Level	Processes at the District Level
Drugs and medical supplies	The MOH headquarters is in charge of bulk procurement of drugs and is committed through multiyear framework contracts. Drugs are received by the Medical Stores Limited, a parastatal in charge of storage, management, and distribution.	Health facilities receive drugs against a shadow budget through the Medical Stores Limited. They can also use a small fraction of their operational grants for emergency procurement of drugs in the advent of stock-outs.
Capital investment	The Department of Infrastructure at the MOH headquarters is in charge of public investment management (including appraisal, selection, construction, and management). Infrastructure funds take a medium-term perspective but are budgeted for alongside the recurrent budget.	Decisions on the development budget are generally taken at the central level. Districts and facilities have limited autonomy or fiscal space for capital investments.

Objectives and Scope of the Study

14. **This public expenditure review (PER) covers 2006–2016 and builds on the previous (2009) PER.** It examines trends in health funding and expenditure in the public sector from the central to district level. The report provides a granular picture and disaggregates total expenditure across cost centers, economic and functional classification, and the level of care. Only expenditures that directly affect health were included. Excluded were activities that indirectly affect health such as pollution control, road safety, and agriculture.

15. **The specific objectives of the PER are**

(a) To assess the level and allocation of public financing to and within the health sector;

(b) To assess the extent to which public expenditures are efficient and equitable in achieving health outcomes;

(c) To review the extent to which existing resources are deployed in line with stated priorities in terms of effectiveness, efficiency, and equity as reflected in policy and strategic plan documents; and

(d) To provide recommendations on the sustainability of funding, and efficient and equitable use of funds.

16. **Findings and recommendations from the PER are expected to feed into the policy and decision-making processes in the health sector in Zambia.** This includes input into the preparation of policies and strategic plans, and dialogue on various reform initiatives including the proposed NHI scheme. Results from the PER are also expected to provide useful inputs into the planning and budgeting process by the government, cooperating partners, and other stakeholders in the health sector in Zambia. Therefore, the audience for this report are the Zambian government, parliamentarians, cooperating partners, civil society, NGOs, and the academia.

Data Sources, Boundaries, and Limitations

17. **Government budget and expenditure data covering the fiscal years 2006−2016 were drawn from annual government financial reports, commonly referred to as 'blue books'.** These reports are generated directly from the IFMIS according to the last day of the fiscal year. The financial reports differentiate between budgets, funding, and expenditure for all government ministries, departments, and agencies. Government financial statements were read, interpreted, and analyzed in conjunction with annual reports from the Auditor General's Office. In addition, actual IFMIS outputs from the MOH were analyzed for more granularity.

18. **All expenditures from the MOH were extracted and combined with health-related expenditures from other government ministries, departments, and agencies.** Identification of health-related expenditures from other government line ministries was done at the activity level, aimed at ensuring that all such expenditures were incorporated. This includes health-related expenditures from the MCDMCH,[8] Ministry of Education, Ministry of Defense, and the Ministry of Home Affairs. As there are no government agencies in the health sector that operates off-budget, this was not considered as an issue.

19. **This study incorporates expenditures from all financing sources which are reflected in the government financial reports.** This includes domestically generated funds through tax and nontax revenues, domestic borrowing, and external (donor) grants and loans. To split the income and expenditures by financing sources, statements A, B, and D; explanatory notes; and appendixes in the government financial reports were used. Only information on donor funds that are reflected on the financial reports (that is, monies disbursed through the treasury) was collected and analyzed. In other words, unless reflected in the financial reports, donor funds which were disbursed directly to the health sector through (a) 'basket' funding, (b) direct support to provinces and districts, and (c) ring-fenced or earmarked support for certain programs and/or diseases were not included. Further, revenue from medical user fees that are generated by health facilities was not included in the consolidated analysis but was analyzed separately as presented in Appendix A. This is because revenues from medical user fees are mobilized and retained by health facilities and not submitted to treasury.

20. **Apart from government financial reports, additional information was obtained from a number of sources.** For the initial part of the analysis where the total expenditures in the health sector are presented, data were obtained from previous national health accounts (NHA) surveys. Health sector financial reports were also used to triangulate data. Data on health inputs such as HRH, drugs and medical supplies, infrastructure and medical equipment were collected from various departments at the MOH. Health systems performance data were collected from the health management information system while health outcome data were drawn from demographic and health surveys and the Institute for Health Metrics and Evaluation. Macroeconomic and fiscal data were obtained from the World Bank and the International Monetary Fund while demographic data (including population estimates) were obtained from the Zambia Central Statistical Office.

21. **Reading and understanding the government financial reports in Zambia is challenging.** To fully understand the funding and expenditure sources, the research team had to read the government financial reports with the auditor general's reports. Within the financial reports, statements A, B, and D, corresponding notes, and appendixes were also read together to fully understand the financing flows. In addition, several meetings were held with

[8] During 2013-2015, mother and child health programs and activities were being implemented by the MCDMCH.

accountants at the MOH and the Accountant General's Office to get a deeper and accurate understanding of the financial reports. Our recommendation is for the Ministry of Finance to come up with a much more user-friendly format for reporting income and expenditure.

Organization of Report

22. **This report is organized into six chapters and annexes.** Following the introduction, Chapter 2 provides the overall level and composition of health spending in Zambia from the NHA. Zambia has a long history of producing NHA and the current estimates cover 1995−2016. Chapters 3, 4, and 5 present the main findings—composition and distribution of public expenditure on health, budget performance and value for money, and equity in resource allocation and use. Chapter 6 concludes the report and offers some recommendations for improving resource allocation and public finance management in the health sector. The annexes discuss fiscal space for health, institutional structure of the Zambia health system, and breakdown of expenditures at various levels of the MOH.

2. Level and Composition of Total Current Health Spending

23. **Overview.** Total current health expenditure (CHE) in the economy at 4.5 percent of GDP is comparable to average spending (4.1 percent) in other LMICs in Sub-Saharan Africa but below the regional average of 5.4 percent for Sub-Saharan Africa countries. In 2016, the government contributed 38 percent of the total CHE in the country while cooperating partners (donors) contributed 42 percent, and households (through out-of-pocket [OOP] payments) contributed the third highest share at 12 percent of total CHE (figure 3). This signifies high reliance on donors to finance the health sector in Zambia. However, the bulk of the donor funds in Zambia are earmarked for HIV/AIDS and channeled through vertical programs due to low confidence in the use of government systems. For example, about 70 percent of the total funding from donors in the health sector over 2015−2016 was spent on HIV/AIDS and sexually transmitted infections (STIs) (MOH 2018a). Earmarking of financial support undermines the stewardship role of the government and its ability to allocate funds strategically, and this leads to inefficiencies in resource allocation and use and perpetuates weaknesses in government systems. Going forward, it will be important for donors to make greater use of government systems to enhance the stewardship role of government, ownership, and aid effectiveness.

24. **Total health expenditures make up a small share of Zambia's economy.** Zambia was reclassified as an LMIC in 2011, which reflects its strong economic performance. However, total CHE has not been commensurate with this growth and only makes up 4.5 percent of the GDP, which in monetary terms is equivalent to US$58.9 per capita. While total CHE as a share of GDP in Zambia is in line with the average for other LMICs in Sub-Saharan Africa, some of the individual countries with similar income levels in Africa dedicate a significantly greater share to health (table 5). Further, total CHE per capita spending in Zambia (US$58.9) is below the average for other LMICs (US$82) and the regional average for Sub-Saharan Africa countries (US$85) (tables 4 and 5).

Table 4: Overview of key health finance indicators

Country	CHE per capita	CHE as % of GDP	GGHE-D as % of GDP	GGHE-D as % of CHE	GGHE-D as % of GGE	Health wage bill as % of PEH
Zambia	58.9	4.5	1.7	38.3	8.0	62
Benchmarks	82[b]	4.1[a]	—	—	15.0[c]	45[d]

Source: NHA 2018; Government financial data; World Development Indicators; Vujicic, Ohiri, and Sparkes 2009.

Note: GGHE-D = General government health expenditure (domestic sources); PEH = public expenditure on health.

a. The WHO encourages countries to spend at least 5 percent of GDP on health.

b. On average, LMICs spend US$82 per capita CHE per year. McIntyre, Meheus, Røttingen (2017) estimate the need at US$86 per capita, that is, the minimum required for low-income countries and LMICs to provide basic health services.

c. Through the Abuja Declaration of 2001, African heads of state committed to allocating at least 15 percent of their government domestic budget to the health sector.

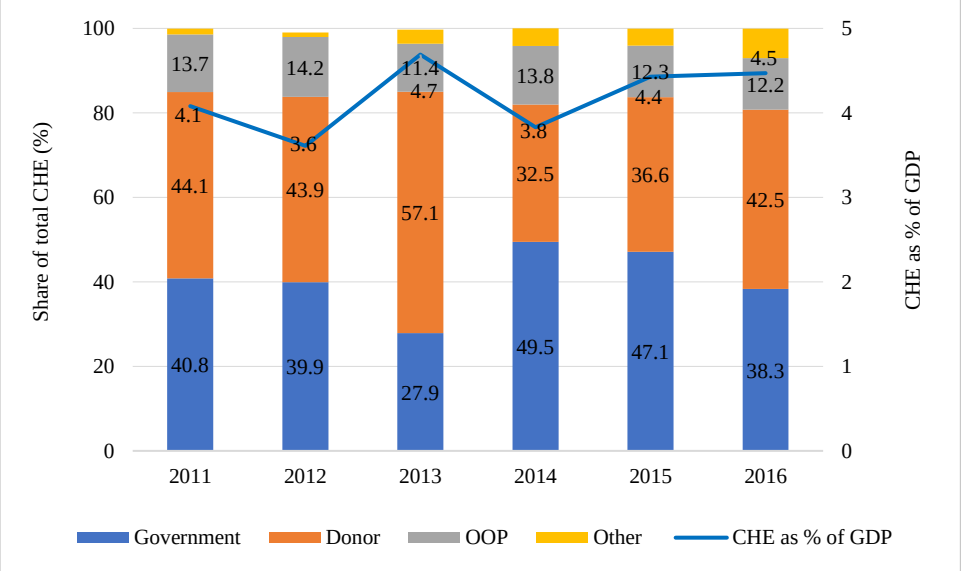
d. Vujicic, Ohiri, and Sparkes (2009) estimate spending on personal emoluments (PEs) as a share of total public expenditure on health for LMICs at 45 percent.

Table 5: Level of total current health expenditure: Zambia versus peer countries

Country	CHE as % of GDP	CHE per capita
Lesotho	8.4	90.85
Swaziland	7.0	232.72
Sudan	6.3	151.79
Ghana	5.9	79.59
Côte d'Ivoire	5.4	75.45
Kenya	5.2	70.06
Cameroon	5.1	63.63
Zambia*	4.5	58.87
Nigeria	3.6	97.31
Congo, Rep	3.4	58.79
Angola	3.0	108.56
Sub-Saharan Africa (excluding high income)	5.4	84.84
LMIC average	4.1	81.71

Source: All data from World Development Indicators except for *MOH (2018a).
Note: The table lists all the LMICs in Sub-Saharan Africa, regional average for all Sub-Saharan Africa countries, and global average for all LMICs. Data for Zambia are for 2016 while the other data points are for 2015.

Figure 3: Trends in health financing in Zambia



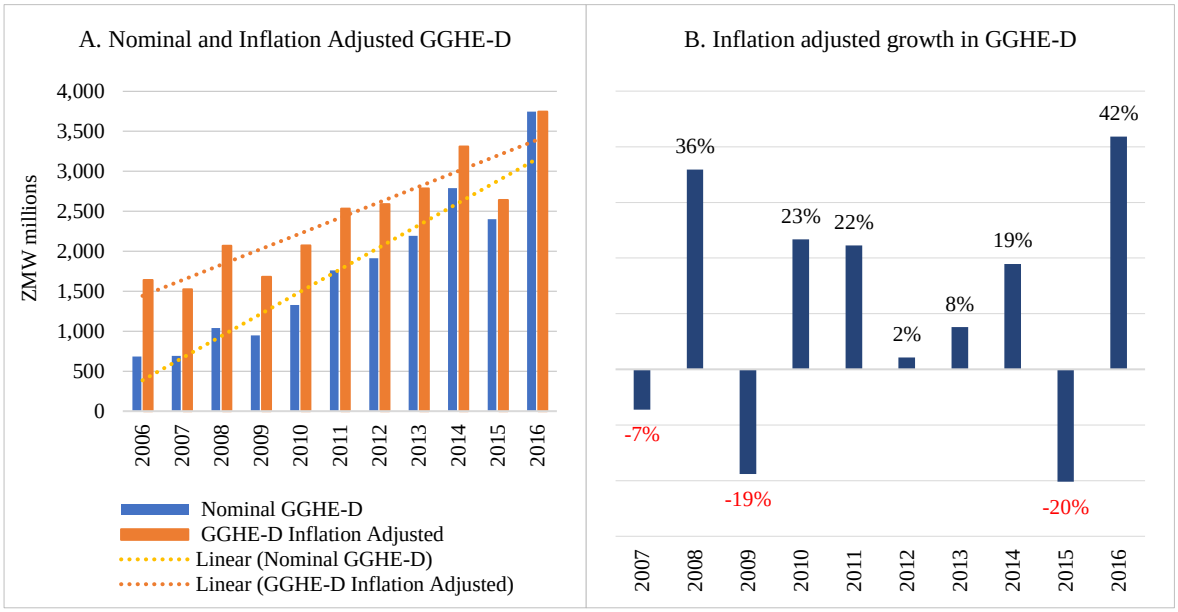
Source: MOH 2018a.

Government Health Expenditure

25. **Total general government health expenditure from domestic sources (GGHE-D) has increased in both nominal and real terms (figure 4A).** To come up with GGHE-D, expenditure from donors or external sources that is channeled through the national (public) system was excluded from the analysis. Adjusting for inflation, GGHE-D has increased by about 10 percent in total, thus doubling since 2006 (figure 4B). A 10 percent increase is reflective of the average GDP growth rate of 6.6 percent over the period when population growth of about 3 percent is also considered. The growth rate of GGHE-D has, however, been

fluctuating significantly—which in part reflects a vulnerable economic situation. The contraction in growth of GGHE-D in 2009 follows the 2008–2009 global economic crisis while the contraction in 2015 can be attributed to internal and external pressure on the Zambian economy. The major factors were: low rainfall that negatively impacted the agriculture and energy sectors, low prices of copper on the global market, and slower regional and global economic growth.

Figure 4: Trends in GGHE-D



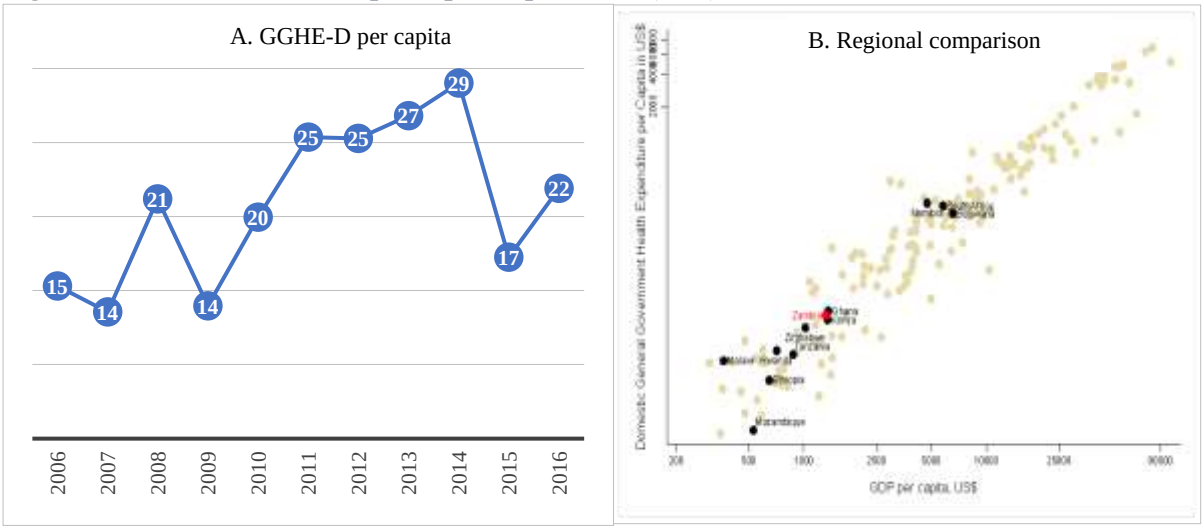
Source: Government financial reports (2006–2016).

26. **While GGHE-D in kwacha terms has increased at a fluctuating rate over the years, GGHE-D in U.S. dollar terms has remained flat.** This is shown in figure 5A where GGHE-D per capita in U.S. dollar terms in 2016 was at the same level as 2008 and 2010. This could be attributed to a decline in the exchange rate of the Zambian kwacha to the U.S. dollar over the years coupled with a weak external position. As observed by Chansa, Sundewall, and Östlund (2018), depreciation of the kwacha has negative consequences for purchase of goods and services denominated in foreign currency (that is, medicines, vaccines and other medical supplies). The GGHE-D per capita of US$22.5 in 2016 is below some of the countries in the African region (figure 5B). This level of spending is insufficient given that a substantial amount of domestic resources are required for countries to expand and sustain access to high-quality health services and to achieve financial protection (Cashin et al. 2017; Kutzin 2016; World Bank 2016). This calls for greater financial commitment from the Zambian government.

27. **GGHE-D is influenced by the government's revenue generation capacity.** The extent to which government can allocate resources to health is a function of how much revenue it collects and to what extent the government prioritizes health as a sector. Both of these perform poorly in Zambia. Zambia's domestic revenue collection is relatively low, especially given its income level and access to natural resources (figure 6A). Domestic revenue generation as a proportion of GDP in Zambia is the same as Malawi and Tanzania, both of which are low-income countries. The Zambian government also spends a relatively low share of its resources on health (figure 6B). At about 8 percent of the GGE, Zambia's GGHE-D is comparable to Ghana, Zimbabwe, and Mozambique but lower than Tanzania, Ethiopia, and Malawi. Government spending in the health sector in Zambia is far below the Abuja target of 15 percent. Therefore, even though in absolute terms GGHE-D in Zambia has been increasing, this growth

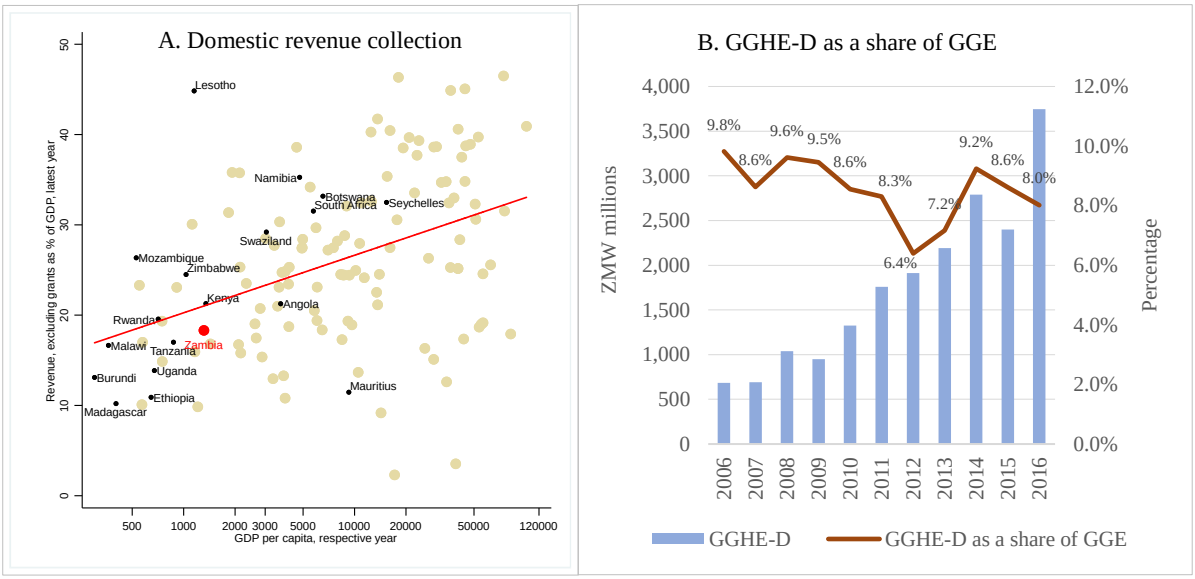
has been slower than the growth in GGE, and this explains why the share to health has been declining over the years (figure 6B). This suggests that the health sector is not adequately prioritized when additional resources are available in the economy.

Figure 5: Trends in GGHE-D per capita expenditure (US$)



Source: Government financial reports (2006–2016) and World Development Indicators (2016).

Figure 6: Domestic revenue collection and GGHE-D



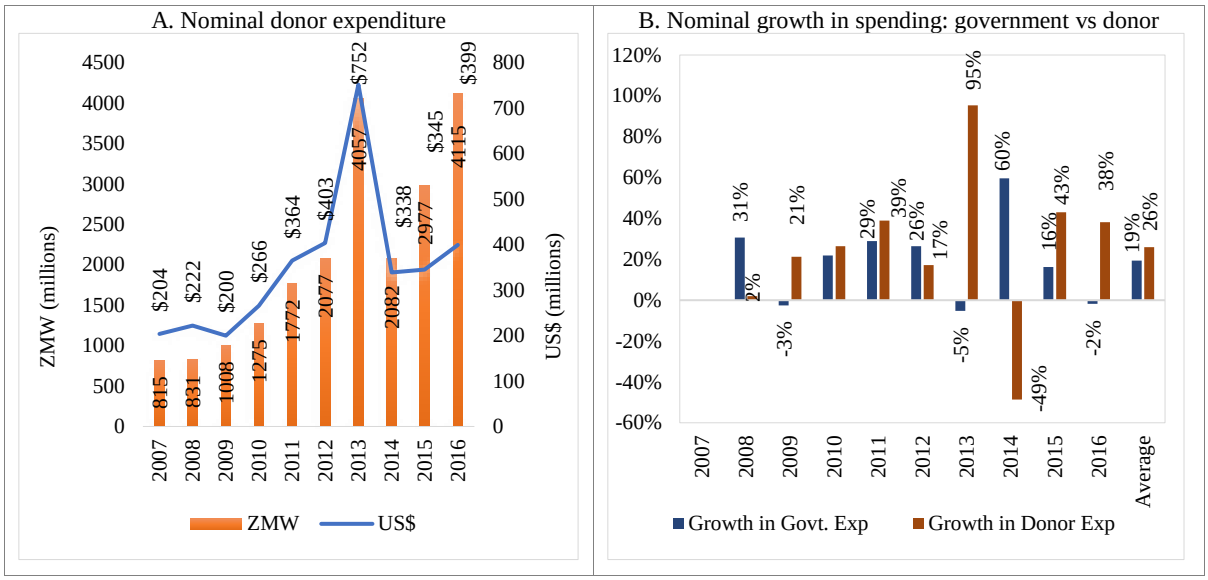
Source: Government financial reports (2006–2016) and World Development Indicators (2016).

Donor Expenditure on Health

28. **Donors make up a huge part of total health spending in Zambia, but the support has now stagnated.** Donor spending at an annual average of 42 percent of total CHE over 2011−2016 has remained high despite Zambia's graduation to an LMIC in 2011. In nominal terms, donor expenditure in the health sector has increased significantly from about ZMW 815 million in 2007 to slightly over ZMW 4 billion in 2016 (figure 7A). Growth in donor expenditure in the health sector has been much faster and more consistent than growth in government health spending during the same period. However, if expressed in nominal U.S. dollar terms, the growth in donor spending is minimal, that is, from about US$204 million in

2007 to US$399 million in 2016. This could be attributed to a loss in the value of the Zambian kwacha over the years due to a decline in the exchange rate of the Zambian kwacha to the U.S. dollar. Further, in per capita terms, total donor funding declined from US$52 per capita in 2013 to US$23 per capita in 2014 and has stagnated at this level over 2014−2016 (MOH 2018a). This stagnation could be attributed to increased population. This situation suggests that the available resources in the health sector are dwindling yet the population and disease burden are increasing (see Chapter 1). Further, it must be pointed out that excessive reliance on external funding to finance health service provision is unsustainable particularly because Zambia is currently transitioning from donor financing given its LMIC status.

Figure 7: Trends in total donor health expenditure

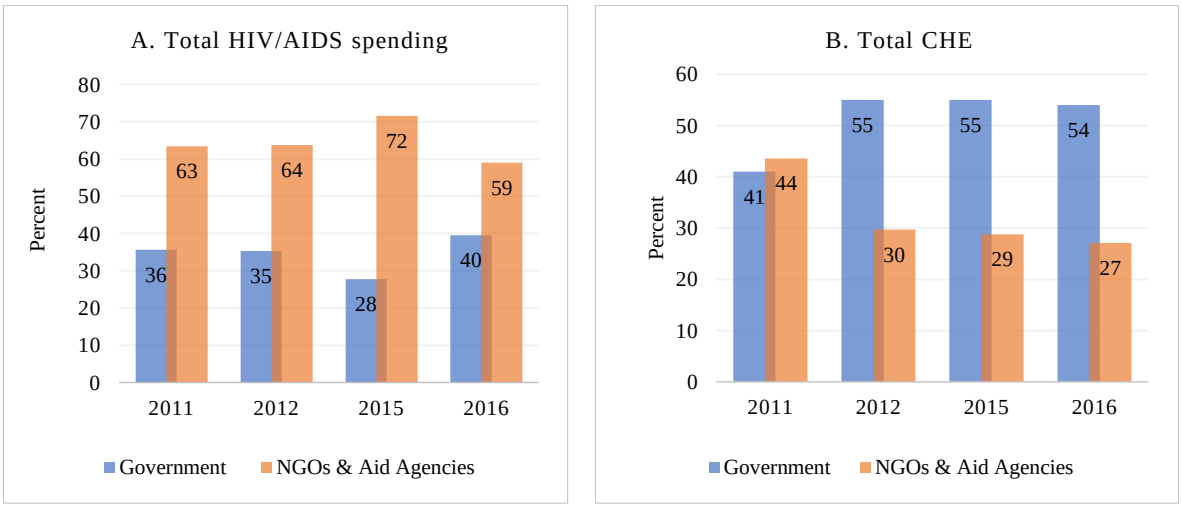


Source: Various rounds of NHA, 2007−2016.

29. **The bulk of the donor funds in Zambia are spent on HIV/AIDS and channeled through vertical programs.** Results from the NHA reveal that on average, 70 percent of the total funding from donors in the health sector over 2015−2016 was spent on HIV/AIDS and STIs annually (MOH 2018a). Further, an annual average of 64 percent of the total HIV/AIDS expenditure over 2011−2016 was managed by aid agencies and NGOs compared to government institutions which only managed 35 percent of the funds (figure 8A). On the other hand, an annual average of 30 percent of the total CHE was managed through aid agencies and NGOs during the same period while government institutions managed 50 percent of the total CHE (figure 8B). While earmarking is designed to provide sufficient resources to address the HIV/AIDS pandemic—which is among the top 10 causes of morbidity and mortality in Zambia—other priority diseases and conditions such as malaria, tuberculosis, reproductive health, and child malnutrition do not receive as much donor support as HIV/AIDS. These findings are highlighted in the 2013−2016 NHA report (MOH 2018a). This reinforces the common argument that earmarking reduces efficiency in resources allocation and capability of the government to optimize total funding across all programs. The other critical issue is that a considerable amount of donor funding is off-budget. This could be attributed to lack of confidence in the existing public financial management system in Zambia due to a history of weak transparency and accountability in the management of resources in the health sector. However, provision of financial support through vertical programs undermines the stewardship role of the government and its ability to allocate funds strategically. This tendency also perpetuates weaknesses in government systems and is not institutionally sustainable. Going forward, it will be important for donors to make greater use of government systems as this will

enhance the stewardship role of government, promote national ownership, and increase aid effectiveness.

Figure 8: Financing Agents for HIV/AIDS funds and total CHE



Source: Various rounds of NHA, 2011−2016.

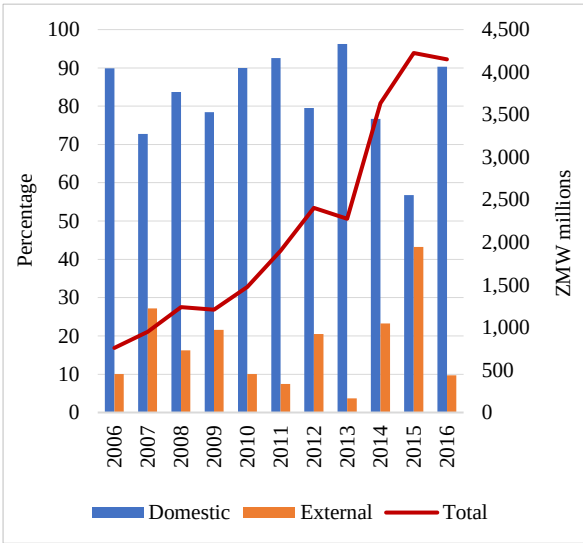
3. Composition and Distribution of Public Expenditure on Health

30. **Overview.** Public expenditure on health constitutes of domestically generated financial resources by government, and on-budget donor or external funds. This chapter reviews how health expenditures in the public health system are distributed by financing sources (domestic versus external), provinces and districts, administrative functions, and key health systems inputs. Though the majority of the public expenditure on health is generated from domestic sources, there is a growing reliance on domestic and external borrowing to finance public services (including health) which could be unsustainable in the medium-to-long term. Second, while the shares of funds for PHC and districts have been increasing, there are considerable differences in per capita expenditure across and within provinces. The trend in per capita district expenditures has been diverging, with districts and regions that are already well-endowed receiving a comparatively larger share of financial resources over time. Salaries and wages have increased significantly in recent years driving up the cost of service provision. This has also crowded-out funding for other goods and services such as drugs and medical supplies and capital investments.

Public Expenditure on Health: Domestic versus External Sources

31. **The bulk of the public expenditure on health is generated from domestic sources.** This is illustrated in figure 9 which shows that on average, domestic sources constituted about 82 percent of the total public expenditure on health over 2006–2016. However, since 2014, there has been an increase in external borrowing and this pushed down the contribution from domestic sources to 77 percent and 57 percent in 2014 and 2015, respectively (figure 9). Furthermore, if domestic loans are removed, the contribution from the government's own revenue sources goes down further. This is shown in figure A2 (appendix A). Domestic and external loans as a share of the total public budget was about 22 percent on average per year during 2006−2010 but increased to an annual average of 41 percent during 2011−2016 (figure A2, appendix A). More discussion on the revenue sources for the total public budget is provided in Appendix A. Given the above, it suffices to say that the nominal increase in the total public expenditure on health between 2012 and 2016 is a result of domestic and external borrowing.

Figure 9: Composition of total public expenditure on health



Year	Domestic (%)	External (%)	Total (ZMW, millions)
2006	90	10	759.17
2007	73	27	948.53
2008	84	16	1,239.92
2009	78	22	1,209.13
2010	90	10	1,474.14
2011	93	7	1,901.11
2012	80	20	2,404.18
2013	96	4	2,277.22
2014	77	23	3,635.70
2015	57	43	4,225.00
2016	90	10	4,150.34

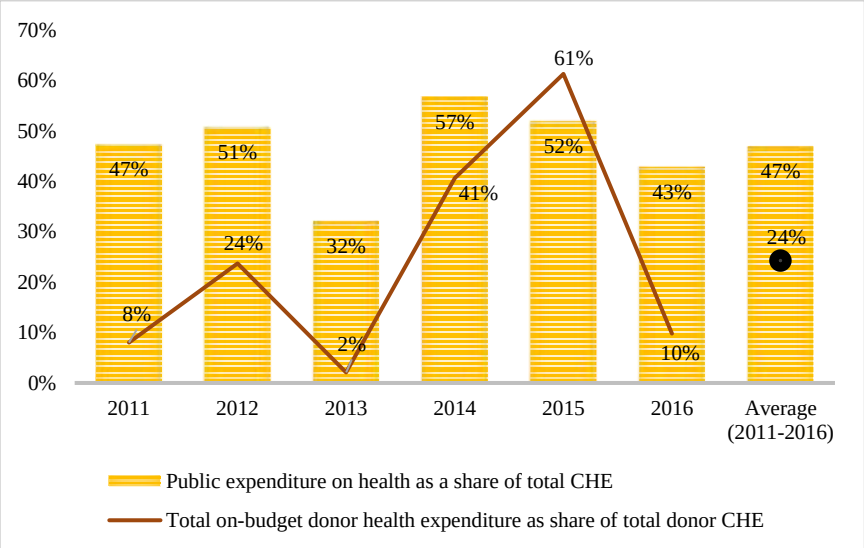
Source: Government financial reports (2006−2016).

Size of Public Expenditure on Health

32. **Public expenditure on health constitutes a small share of total health spending in Zambia.** As shown in figure 10, public expenditure on health as a share of total CHE was about 47 percent on average over 2011−2016. The lowest share was recorded in 2013 (32 percent) after which there was an increase to 57 percent in 2014, and then reductions to 52 percent and 43 percent in 2015 and 2016, respectively. Public expenditure on health as a share of total health spending in Zambia is affected by the amount and/or share of the total on-budget donor expenditure (see figure 9). On-budget donor expenditure on health as a share of total donor spending in the health sector (total donor CHE) was about 24 percent on average over 2011−2016. Specifically, there was a decline between 2012 and 2013 (from 24 percent in 2012 to 2 percent in 2013) and increases in 2014 (41 percent) and 2015 (61 percent) (figure 10). However, in 2016, only 10 percent of the total donor resources were on-budget (figure 10).

33. **The low level of public spending on health in Zambia will make it difficult to expand access to high-quality health services and to achieve UHC.** This is because a sufficient amount of domestic resources channeled through the public health system are more likely to propel Zambia to attain UHC (Achoki and Chansa 2013). Nonetheless, rather than solely focusing on generating more domestic resources for health, there is also a need to increase efficiency in allocation and use of the available resources. As observed by Kutzin (2016), effective management of public expenditures on health is essential to increasing effective coverage and achieving better health outcomes in Africa.

Figure 10: Trends in public and donor expenditures on health

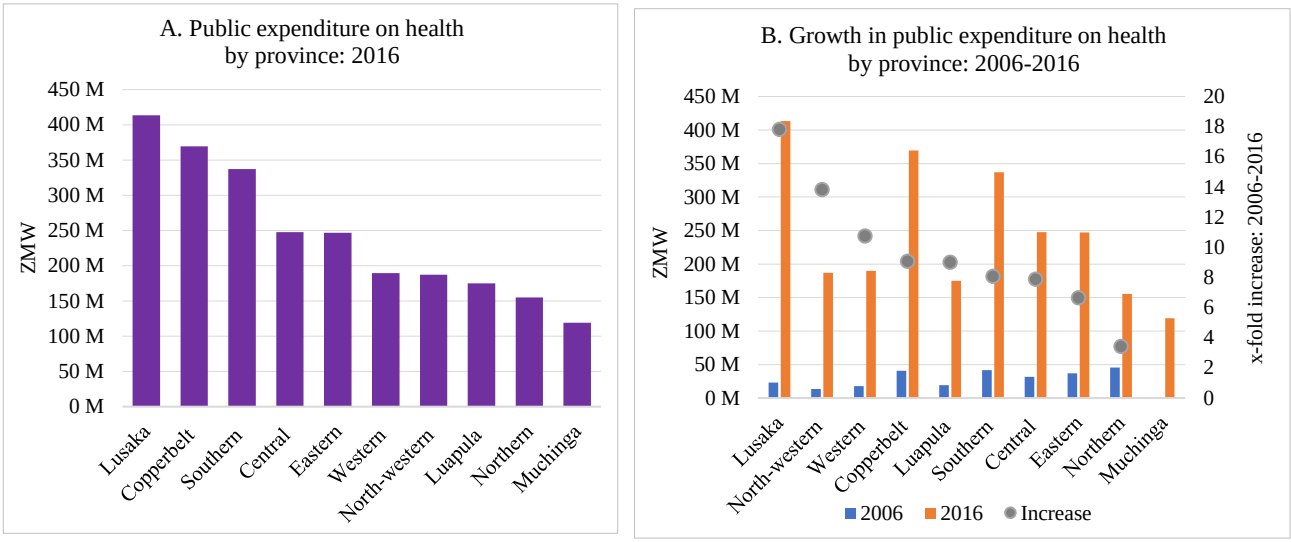


Source: Government financial reports 2006–2016; NHA 2013−2016.

Public Expenditure on Health by Provinces and Districts

34. **There is significant variation in trends in expenditures across provinces.** The provinces with greatest health expenditures are Lusaka, Copperbelt, and Southern (figure 11A). The largest increase between 2006 and 2016 was in Lusaka, Northwestern, and Western Provinces. While Northern Province was among the highest recipients in 2006, its rate of increase over the years was comparatively low, leaving it as one of the least-funded provinces in 2016 (figure 11B). And though some of this variation can be explained by urbanization and population density, this expenditure pattern perpetuates inequalities across provinces.

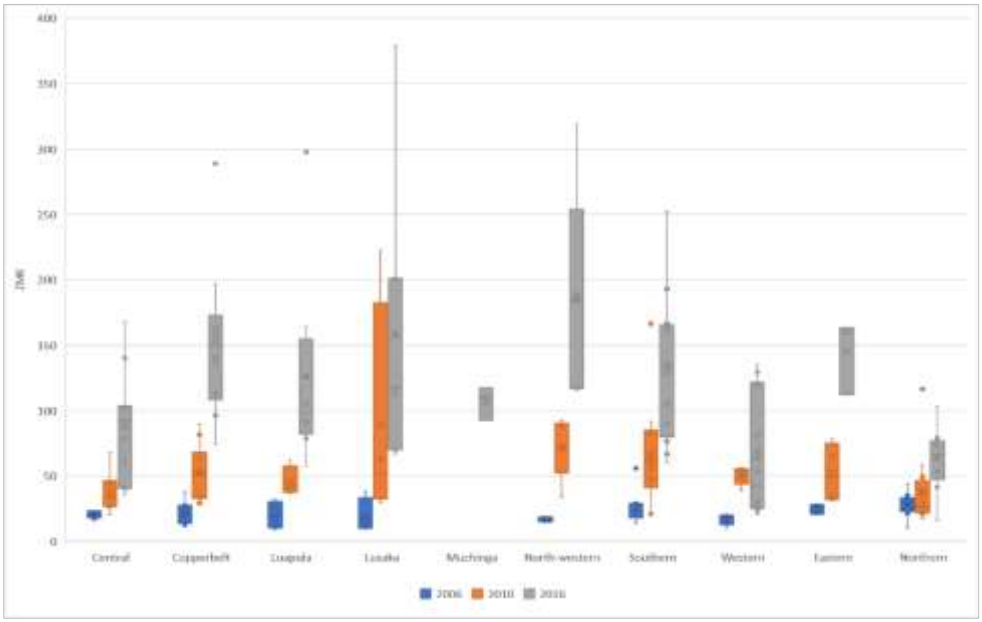
Figure 11: Distribution and growth in public expenditure on health by province



Source: Government financial reports (2006–2016).

35. **Within-province variations in health expenditures exaggerates an already unequal playing field.** There is very high variation in health expenditures across districts, and this variation has been increasing over time. Per capita expenditure by districts has increased significantly across most districts since 2006 but more so in districts in Lusaka, Copperbelt and Southern Provinces. The box and whisker chart (figure 12) shows variations within the provinces by quartiles, mean, medians, and outliers. This demonstrates high variations in per capita expenditure within the provinces. While there were variations in 2006, the gap has increased significantly in the last decade, with more affluent districts such as Lusaka receiving a significantly higher per capita allocation.

Figure 12: Variations in per capita public expenditure on health across districts



Source: Government financial reports 2006–2016.

Health Expenditure by Administrative Function

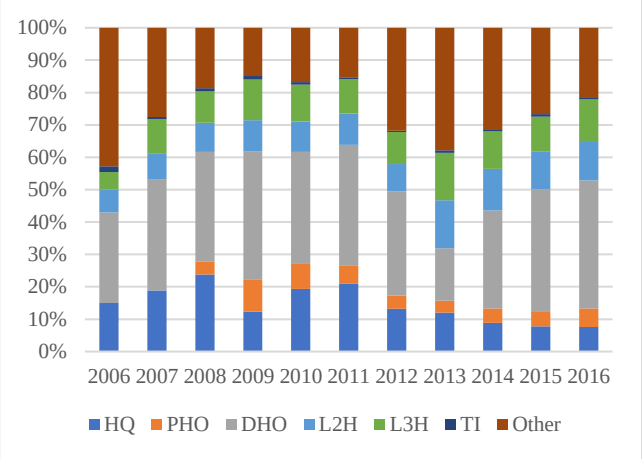
36. **A large share of public expenditure on health in Zambia is dedicated at the district level.** Expenditure at the DHO (which includes district hospitals) as a share of the total public expenditure on health was 35 percent on average per year during the period under review except for 2013 when it was 16 percent (figure 13). This is the year when the MCDMCH took over the responsibility of managing PHC. In 2016, expenditures at the district level were 40 percent of total public expenditure on health in Zambia (table 6). This distribution of resources conforms to the aspirations outlined in the National Health Policy of providing quality health services through a PHC approach (MOH 2012). However, beyond the district level, it is difficult to assess the extent to which lower-level facilities such as health centers benefit from resources managed through the public system. This is because lower-level facilities are not cost centers and receive money through district medical offices in the form of an imprest and in-kind contributions. Further, government expenditure data do not have sufficient granularity to break down expenditures at the lower-level facilities. However, through an NHA survey that was conducted alongside this PER, total CHE was broken down by providers of health services. The results show that a significant share of total CHE is going to ambulatory health care, which is mostly made up of health centers and health posts (MOH 2018a). As a percentage of total CHE, expenditures at health centers and health posts were estimated at 10.4 percent and 19.0 percent in 2013 and 2016, respectively (MOH 2018a). The increase in the share of expenditure at health centers and health posts is justifiable because these facilities provide preventive care and first-level treatment and are cheaper to run than hospitals.

37. **Expenditure at the MOH headquarters has declined over the years, but expenditures at the secondary- and tertiary-level hospitals have been increasing.** Public expenditure on health at the MOH headquarters as a share of the total public expenditure on health declined from 15 percent in 2006 to 8 percent in 2016 while there was an increment at hospital level (secondary and tertiary hospitals combined) from 13 percent in 2006 to 25 percent in 2016 (figure 13). The latter is confirmed from the NHA survey which shows that health expenditure at hospitals as a proportion of CHE increased from 24 percent in 2013 to 34 percent in 2016 (MOH 2018a). Results from the NHA survey (figure 14) also shows that health expenditure for curative care as a share of total CHE increased from 30 percent in 2013 to 53 percent in 2016 (MOH, 2018a). Meanwhile, health expenditure on preventive care as a share of total CHE declined from 30 percent in 2013 to 26 percent in 2016 (MOH 2018a). Increasing expenditure on curative care raises questions on the effectiveness of the PHC approach, particularly the extent to which community-based structures are being used to create demand for health services as outlined in Zambia's transformational agenda for the health sector (Chilufya and Kamanga 2018).

Table 6: Public expenditure on health by administrative functions: 2016 (ZMW, millions)

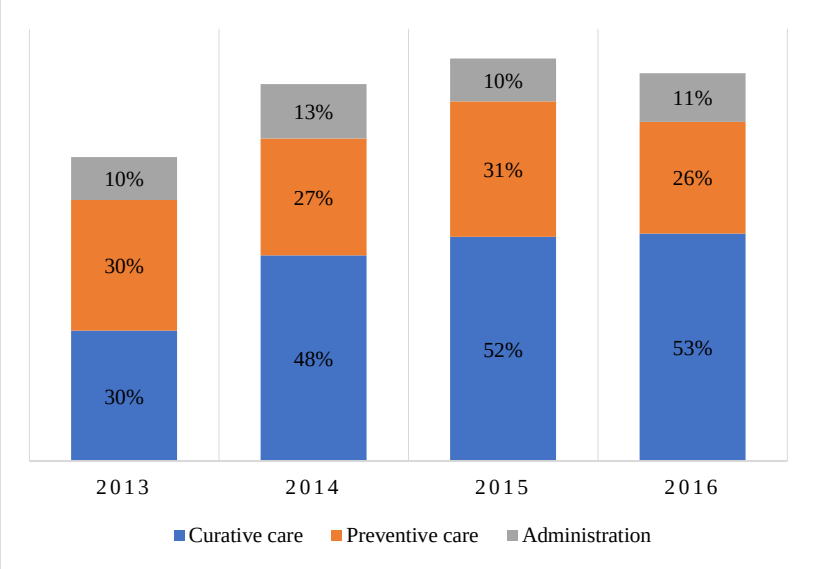
	Budget	Actual	Share (%)
HQ	925	316	8
PHO	503	236	6
DHO	3,353	1,643	40
L2 Hospital	995	492	12
L3 Hospital	1,101	546	13
TI	58	27	1
Other	2,350	890	21
Grand Total	9,284	4,150	100

Figure 13: Shares of public expenditure on health by administrative functions: 2006–2016



Source: Government financial reports (2006–2016).
Note: HQ = headquarters; L2H = level 2 hospital; L3H = level 3 hospital; TI = Training Institution.

Figure 14: Distribution of total CHE by mode of service delivery



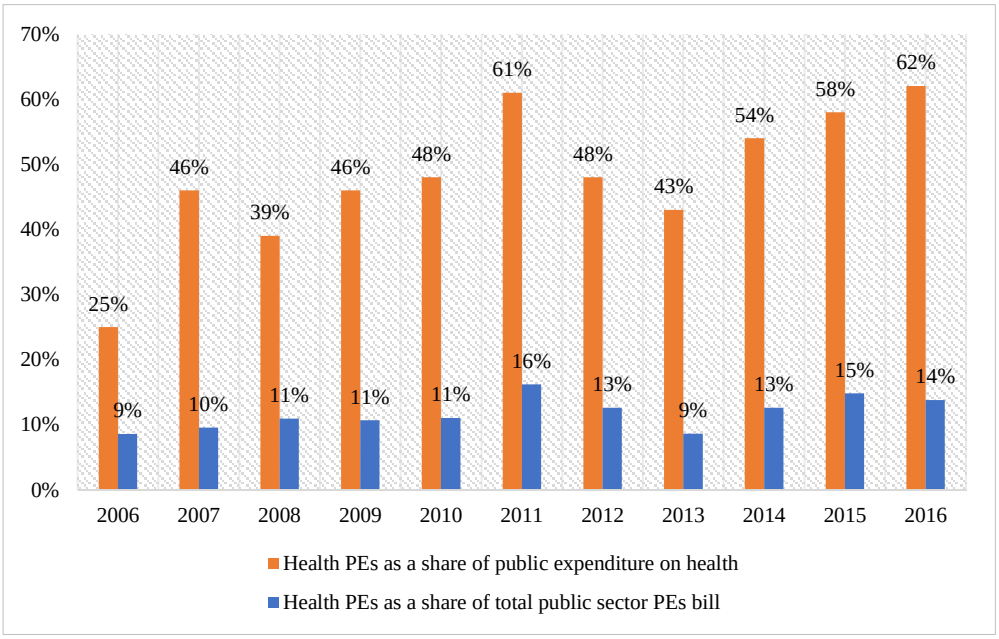
Source: MOH 2018a.

Health Expenditure by Key Health Systems Inputs

38. **Rapid increase in expenditure on PEs (salaries and wages) has crowded out current and future investments in the public health system.** Public expenditure on PEs in the health sector as a share of the total public expenditure on health has increased significantly from 25 percent in 2006 to 62 percent in 2016 (figure 15). Further, as a share of the total public sector wage bill, health expenditure on PEs increased considerably from 9 percent in 2006 to 16 percent in 2011 before dropping to 14 percent in 2016 (figure 15). The rise in spending on health PEs in the public sector is due to regular increments in salaries and wages for all civils servants (including health workers) over the years particularly in 2011 when the new government (Patriotic Front) took office. The rising share of public spending on PEs in the health sector is also due to increased recruitment of health workers during the period under review. This has contributed to the high cost of health service delivery in Zambia and leaves little room for infrastructure development (including civil works, medical equipment,

maintenance and repair); procurement of medicines, vaccines, and other medical supplies; and provision of outreach services. The overall trend is shown in figure 16, where the relative reduction in non-PE related recurrent expenditures is apparent. At 62 percent of the total public expenditure on health in 2016, the share of expenditure devoted to PEs in Zambia is above the norms in other LMICs and Sub-Saharan Africa where the share is estimated at 45 percent and 40 percent, respectively (Vujicic, Ohiri, and Sparkes 2009).

Figure 15: Size of the health wage bill: 2006–2016



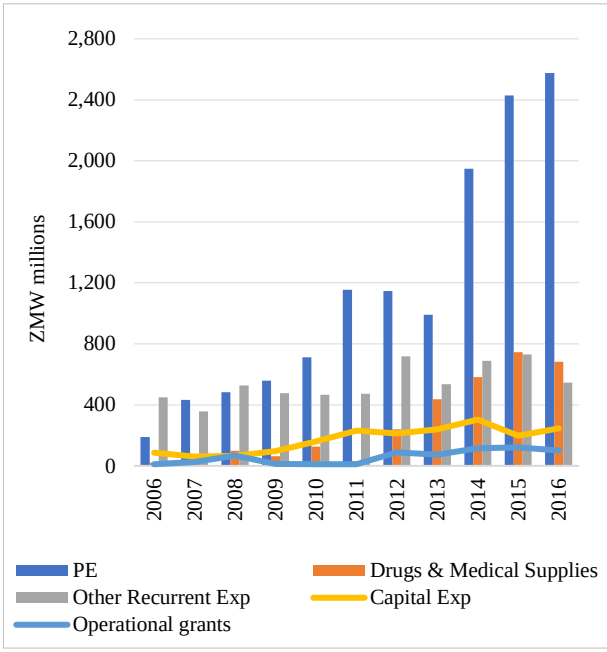
Source: Government financial reports (2006–2016).

39. **Though there has been a substantial increase in public expenditure on drugs and medical supplies, availability of drugs at public health facilities is poor.** In nominal terms, public expenditure on drugs and medical supplies has increased by over 3,100 percent from ZMW 21 million in 2006 to ZMW 683 million in 2016. The annual rate of growth in the nominal public expenditure on drugs and medical supplies was observed between 2012 and 2016 at 156 percent on average compared to 2006–2011 when the average annual growth rate was 53 percent. Further, public expenditure on drugs and medical supplies as a share of the total public expenditure on health has increased significantly from 3 percent in 2006 to 16 percent in 2016 (figure 16). Despite this increase, the level of public spending on drugs in Zambia is still significantly lower that the African regional average of 33 percent (Bennett, Quick, and Velasquez 1997). Low expenditure on drugs contributes to the erratic supply of drugs at public health facilities in Zambia and an unmet need for quality health care. For instance, availability of tracer medicines was estimated at 78 percent at public health facilities which is lower than the availability at private health facilities (83 percent) (MOH 2018c). Another study by the WHO (2017) shows that the availability of tracer medicines at health facilities in Zambia in 2008, 2010, and 2015 was 48 percent, 50 percent, and 48 percent, respectively. This suggests that there has been no improvement in the availability of medicines at health facilities in Zambia despite an increase in the public expenditure on drugs.

40. **The shares of public expenditures on capital items and operational grants have been low.** As show in figure 16, public expenditures on capital items (including the procurement of new assets/buildings, rehabilitation, and maintenance) as a share of the total public expenditure on health was about 8 percent on average per year over 2006–2016. On the

other hand, public expenditure on operational grants as a share of the total public expenditure on health was about 2 percent on average per year over the same period. Low investments in capital items, drugs, vaccines, and medical supplies subsequently diminishes the effectiveness of the available human resources, quality of health care, and value for money. This is further discussed in the next section on value for money.

Figure 16: Breakdown of expenditure by economic classification



2016	Budget (ZMW, millions)	Actual (ZMW, millions)	Share (%)
Recurrent expenditures	**8,425**	**3,804**	**92**
PE	5,369	2,575	62
Goods and services	1,426	506	12
Training	105	39	1
Drugs and medicals supplies	1,526	683	16
Capital expenditure	637	245	6
Operational grants	222	101	2
Grand Total	**9,284**	**4,150**	**100**

Source: Government financial reports (2006–2016).

4. Budget Performance and Value for Money

41. **Overview.** This chapter reviews the credibility of the health budget, Zambia's ability to produce services efficiently, and the extent to which there is value for money. The results show a variance between budget allotments, releases, and expenditures, and this raises questions on the effectiveness of the budget as a tool for strategic planning and prioritization of activities. The budget is only partially funded, and funds are released late contributing to low budget execution. But even when funds are partially released, there is low absorption of funds coupled with inadequate financial management systems at the district level. With regard to value for money, Zambia produces health services at a comparatively high cost, but the services it produces appear to be effective as they are translated into better health outcomes. The results also show a very strong commitment by the Zambian government in addressing the HRH crisis which has resulted in a significant increase in the number of skilled attendants and core health workers in post in the health sector. However, the rising health workforce coupled with huge salary and wage increases since 2011 has put pressure on the overall government budget making it increasingly harder to hire new staff despite the apparent need. Further, the allocation and utilization of the health workforce is skewed toward affluent (urban) provinces, and this diminishes the marginal return on the investment. Furthermore, staff were found to be significantly underutilized. Other sources of inefficiencies that drive up the cost of service delivery is mismanagement in drug procurement, inadequate expenditure on maintenance of existing infrastructure, and accumulation of arrears.

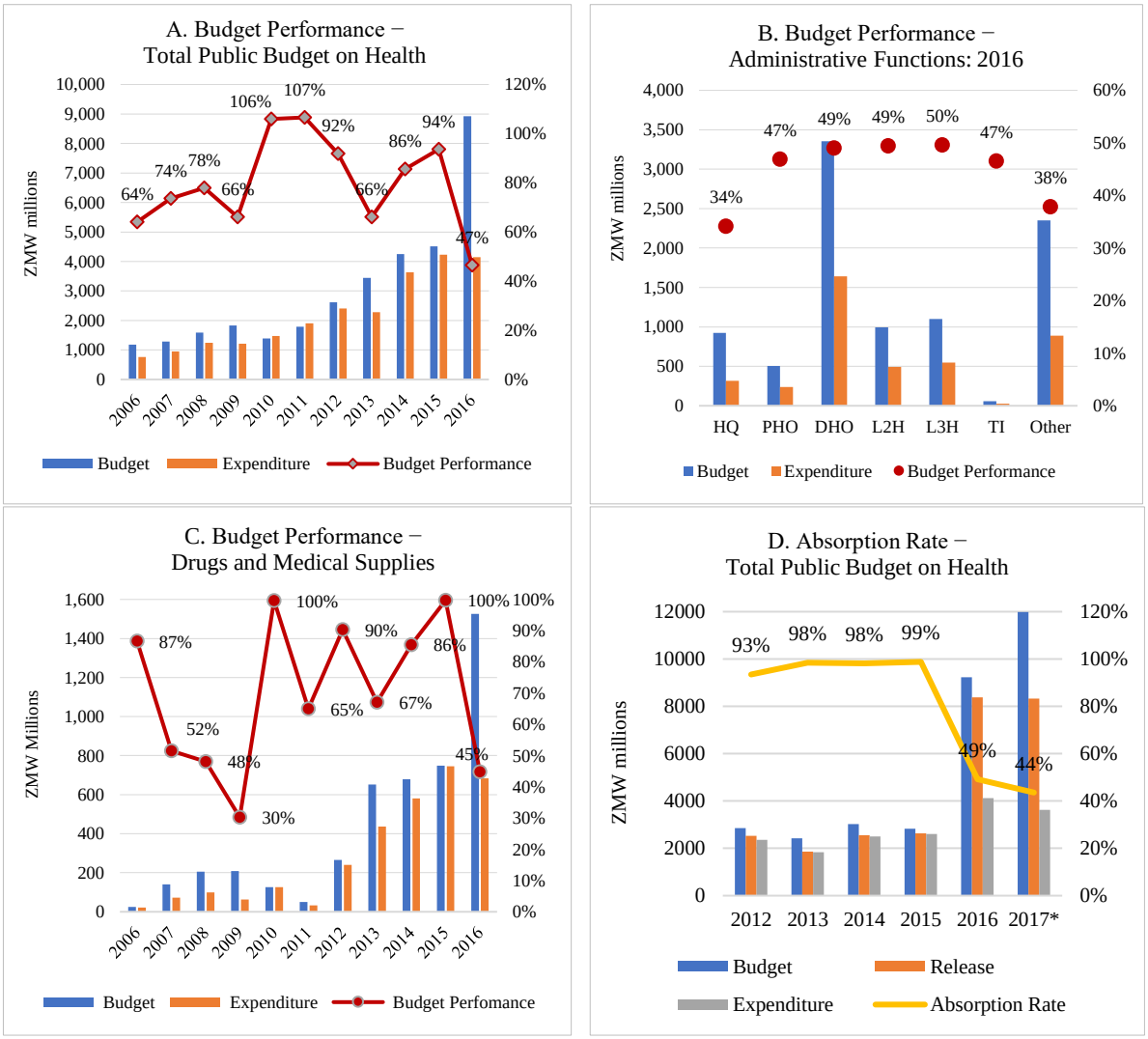
Budget Execution and Absorption Capacity

42. **Zambia has an elaborate planning and budgeting system, but its effectiveness is hampered by poor budget execution and absorption of funds.** The planning and budgeting tools currently being used by the Zambian government include an activity-based three-year medium-term expenditure framework (MTEF) that is developed by using marginal bottleneck analyses. However, there are a number of shortcomings that undermine the strategic outlook of the budget, and the sector's capacity to allocate and use funds effectively. Foremost, budgets are insufficiently protected against economic shocks, and this has negative consequences on the predictability of funding during the financial year, ability to plan for the medium-term, and service delivery. As highlighted in figure 17A, budget performance has been a problem throughout the period under review except for 2010 and 2011. This was particularly problematic in 2013 when the MCDMCH took over the responsibility of the PHC and mother and child health function; and in 2016, when the decision was reversed.

43. **Detailed review of budget performance by administrative functions, drugs, and medical supplies also show a mismatch between budgeted amounts and actual expenditures.** For example, only 47−50 percent of the budgeted funds were spent at the PHO, DHO, level 2, and level 3 hospitals in 2016 (figure 17B). In the same year, budget performance at headquarters (34 percent) and other institutions (38 percent) was much lower (figure 17B). For salaries and wages, the study finds that the full amounts (100 percent) are released directly into the bank accounts of each health worker despite a few days' delay. This is not the case for drugs and medical supplies where budget performance was estimated at 67 percent per year on average over 2006−2016. In fact, 2010 and 2015 were the only years in which budget performance was 100 percent while in 2008, 2009, and 2016, budget performance was below 50 percent (figure 17C). These findings accentuate findings in previous chapters above on low funding for drugs and medical supplies—which contribute to erratic supply and inadequate access to quality health care.

44. **Low absorption capacity contributes to the low budget performance.** A detailed look at budget execution at the MOH shows that release of funds is only part of the problem. As show in figure 17D, low utilization of released funds exacerbates the problem. For example, in 2016 and 2017, about 91 percent and 69 percent of the budget had been funded but only 49 percent and 44 percent of the funds that were disbursed had been spent, respectively (figure 17D). Low absorption of funds is also a problem at the district level. While 92 percent and 84 percent of the budgeted funds at the district level were released in 2016 and 2017, respectively, only half of these funds were utilized (table 7). Low absorption of funds at the district level could be attributed to late release of funds. As shown on figure 17D, only 69 percent of the budget was released by November 2, 2017, with little time remaining in the fiscal year to execute outstanding activities.

Figure 17: Health sector budget performance and absorption capacity



Source: Government financial reports 2006–2016 and MOH IFMIS data.
Note: 2017 data were only available until November 2, 2017.

Table 7: Absorption of district operational grants

	Total Authorized (ZMW, millions)	Total Released (ZMW, millions)	Total Spent (ZMW, millions)	Released as a Share of Authorized (%)	Expenditure as a Share of Released (%)	Expenditure as a Share of Authorized (%)
2016	376	345	172	92	50	46
2017	394	332	160	84	48	41

Source: Government IFMIS.
Note: IFMIS data was only available for the MOH data, and because district budget were managed by the MCDMCH previously, it was not possible to give trend data.

45. **The budget is not comprehensive making it difficult for the government to allocate funds effectively.** The health sector continuous to be heavily donor dependent. External financing sources are, however, often not well integrated into the government processes. This makes planning documents and budgets partial and it undermines the sector's ability to plan strategically. This situation has worsened in recent years as the principal aid modality in the health sector has shifted away from health sector budget or basket support to project support. For instance, while the 2013–2016 NHA showed that about 42.5 percent of total CHE was from donors in 2016, the bulk of these resources are off-budget, that is, they are not reflected in the government financial reports (blue books). Specifically, only 10 percent of the total donor spending in the health sector (that is, total donor CHE) was reflected in the 2016 government financial reports (figure 10). On average, on-budget donor expenditure on health as a share of total donor CHE was about 24 percent per year over 2011−2016 (figure 10).

46. **Regular financial reporting on budget execution is user-unfriendly and untimely.** Districts receive operational grants directly from the Ministry of Finance but are not yet on the IFMIS. And while districts are supposed to report their expenditures on a monthly basis after the transactions have been completed, this is not usually done. To improve financial reporting at the district levels, some partners have installed other accounting packages in some of the districts. However, this has increased the transactions costs as accountants have to run different systems to suit the needs of the government and partners. Further, financial reports that are generated through the IFMIS at the MOH headquarters do not allow for a meaningful disaggregation by items of interest for the health sector. Compounding the problem is that the general form of the IFMIS has been implemented in the health sector without customization; and there is limited capacity or interest to expand reporting modules in the IFMIS to suit the needs of the health sector. Given the above, it is difficult to review how grants are used on a regular basis and to determine whether the funds are spent in line with guidelines on the use of funds at the district level.[9]

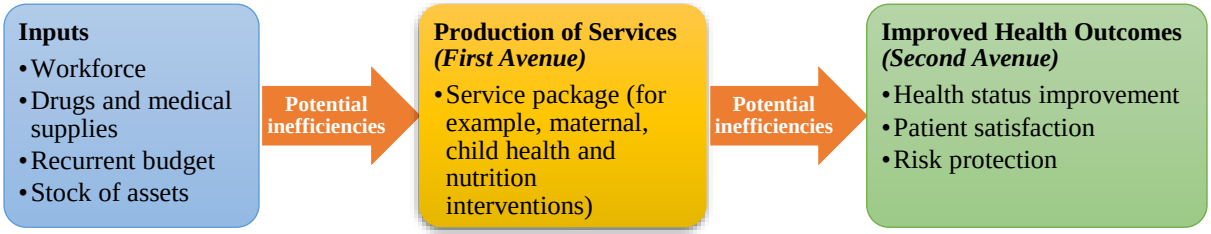
47. **Financial and outcome data are available in the public sector but underutilized.** The government collects service utilization and output data on a routine basis. Population-based surveys such as the Living Conditions Monitoring Survey, Demographic and Health Surveys, and NHA are produced regularly but not adequately utilized when making annual plans and budgets. Data on HRH is also available from the payroll and the human resource management information system at the MOH, but this information is not fully used during planning and budgeting processes.

[9] DHOs are supposed to allocate 5–15 percent of the total district operational grant to the district office, 20–40 percent to district hospitals, 45–60 percent to health centers, and 10–15 percent to the community.

Value for Money

48. **Zambia produces services at high cost, but some of the services appear to be effective.** Zambia's per capita total CHE is in line with the average spending in other LMICs in Sub-Saharan Africa (see table 5), but it has a relatively higher level of cost of service provision. To achieve comparable health outcomes, efficient utilization of the available funds is extremely important. To facilitate benchmarking, two points of potential inefficiencies are used for assessment: (a) the countries' ability to produce services given its total CHE per capita; (b) countries' ability to translate services into better health outcomes. This process is visualized in figure 18.

Figure 18: Avenues for potential inefficiencies in the production of health outcomes



49. **Given its level of spending (total CHE per capita), Zambia performs poorly with regard to providing access and quality health care.** This pattern is visualized in figure 19, using the health access and quality (HAQ) index. The HAQ index (Fullman et al. 2018) incorporates 32 causes of disease and injury considered amenable[10] to health care. In other words, death is not supposed to occur from the 32 causes[11] if there is effective care (Fullman et al. 2018). Measuring healthcare access and quality has gained prominence over the years, and the HAQ index provides a way of assessing performance across 195 countries and territories over the period 1990–2016 (Fullman et al. 2018). The results show that Zambia's score on the HAQ index is below that of countries with a similar CHE per capita expenditure (first avenue, figure 19). Other countries like Ethiopia, Malawi, Tanzania, Mozambique, and Rwanda achieve higher HAQ scores with a much lower CHE per capita. Kenya's CHE per capita is comparable to that of Zambia, but it achieves a significantly higher HAQ score.

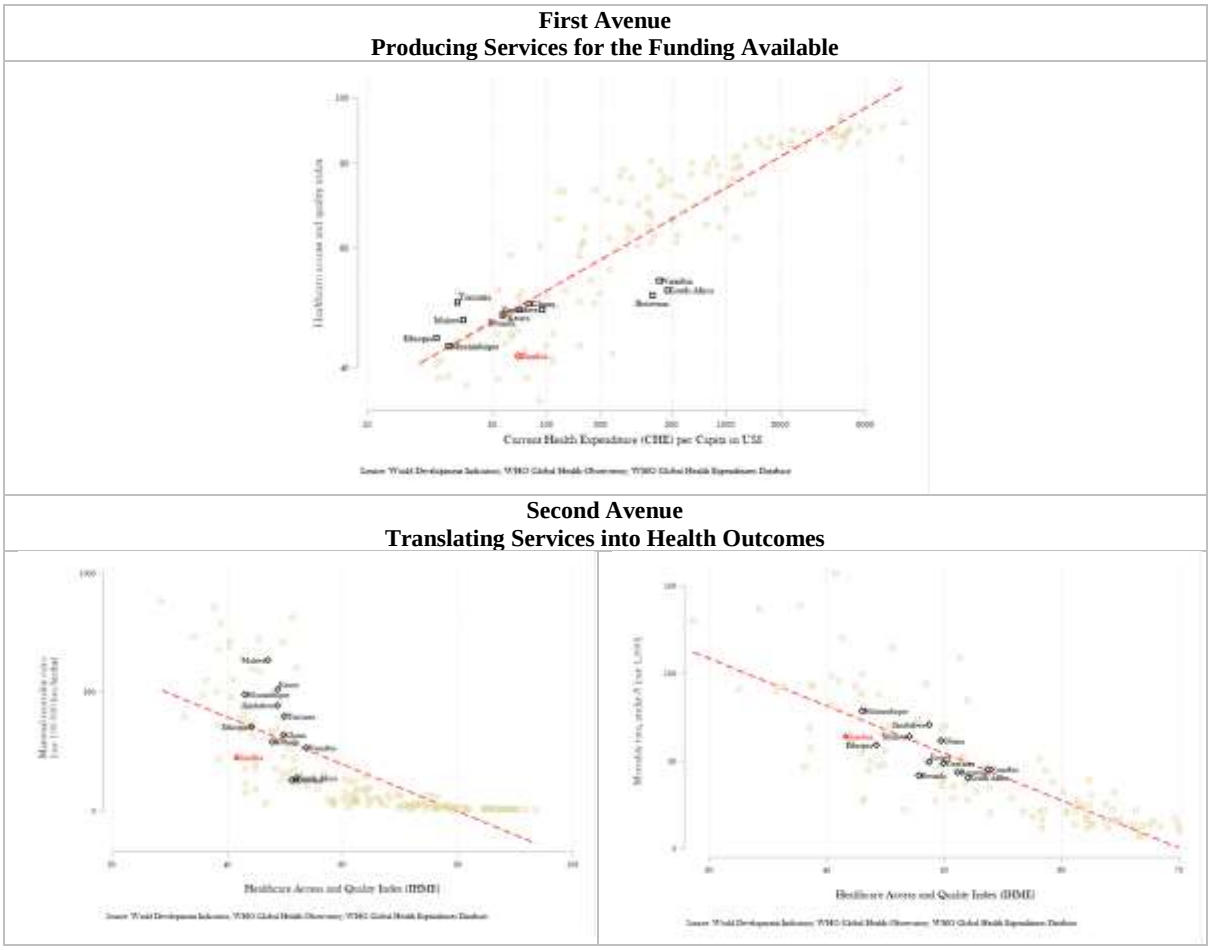
50. **Despite having a low HAQ score, Zambia has better maternal health outcomes than several peer countries.** Specifically, Zambia has a lower HAQ score than Malawi, Kenya, Tanzania, Ghana, Namibia, and Zimbabwe but has a much lower maternal mortality ratio (second avenue, figure 19). This means that Zambia is effective at translating the available services into better maternal health outcomes even though there are some inefficiencies in service provision. On the other hand, Zambia is not effective at translating the available services into better child health outcomes in comparison to the Eastern Southern African region such as Kenya, Tanzania, Rwanda, Botswana, and Namibia. This is because Zambia has a much higher U5 mortality rate than these countries (second avenue, figure 19). Inefficiencies in service provision have most likely contributed to low HAQ scores in Zambia and variations in maternal and child health outcomes. Given that only 47 percent of the total CHE over 2011−2016 was on-budget on average per year, it is realistic to suggest that some of the inefficiencies in the health sector in Zambia are due to poor prioritization and resource

[10] Mortality amenable to health care is defined as "those premature deaths that should have not occurred in the presence of timely and effective health care" https://www.paho.org/hq/dmdocuments/2013/annex-basic-indicators-2013.pdf.pdf.

[11] These diseases and conditions include maternal and perinatal mortality; infectious diseases; neoplasms; nutritional, endocrine, and metabolic diseases; neurologic disorders; cardiovascular diseases; respiratory and digestive system diseases; genitourinary system diseases; and external causes.

allocation. As observed by Achoki and Chansa (2013), channeling sufficient amounts of resources through the public health system is more likely to propel Zambia to attain UHC. Further, Kutzin (2016) notes that effective management of public expenditures on health is essential to increasing effective coverage and achieving better health outcomes in Africa.

Figure 19: Benchmarking efficiency



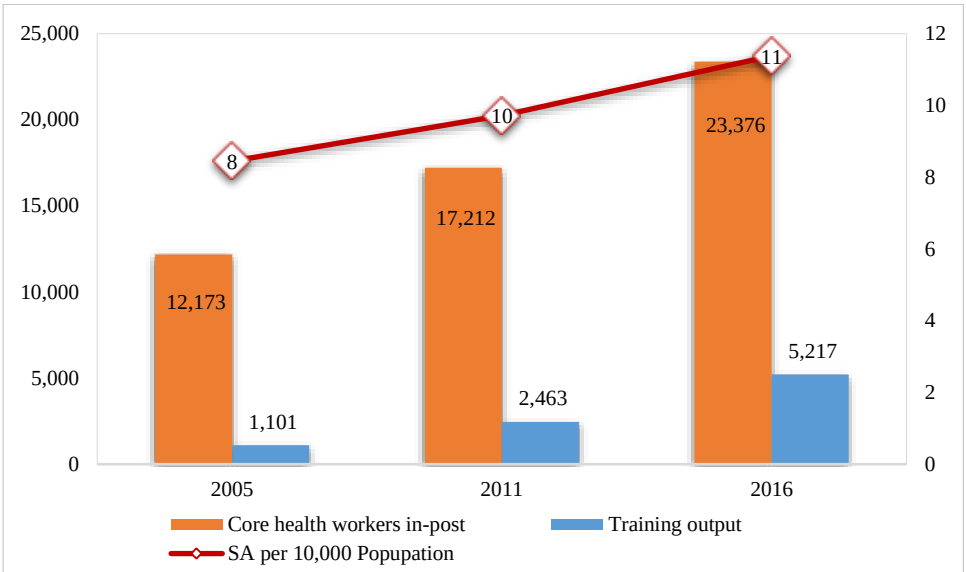
Source: Data from World Development Indicators database and WHO Global Health Expenditure database

Expenditure on HRH and Utilization of the Workforce

51. **The increasing share of public expenditure on health devoted to salaries and wages demonstrates the government's determination to avert the HRH crisis.** Since 2005, Zambia has prioritized HRH and been implemented successive five-year term national HRH strategic plans aimed at increasing staffing levels through increased training, recruitment, management, and retention of health workers in the health sector. To date, two national HRH strategic plans covering the periods 2005–2010 and 2011-2015 have been implemented while the third national HRH strategic plan covering 2018–2024 was launched in August 2018. Among other achievements, implementation of successive national HRH strategic plans has contributed to increased participation of the private sector in HRH training, recruitment, and retention. For example, the total number of health training institutions (public, mission, and private) in Zambia increased by 95 percent from 39 in 2008 to 76 by 2018 with the number of private health training institutions growing from 9 in 2008 to 35 by 2018 (289 percent). Consequently, training and recruitment of health workers has improved tremendously. The annual number of graduates increased from 1,101 in 2005 to 5,217 in 2016 (376 percent

increase) while the number of core health workers in post increased by 92 percent from 12,173 in 2005 to 23,376 in 2016 (figure 20).

Figure 20: Trends in training outputs and staff in post



Sources: MOH (2011, 2018b); CSO (2013); MOH Department of Human Resources and Administration; Health Professionals Council of Zambia Annual Reports (2013, 2015, 2016); General Nursing Council summary reports (2013–2016).
Note: SA = Skilled attendants (doctors, midwives, medical licentiates, clinical officers, and nurses).

52. **The rising health workforce (and health wage bill) in 2014 and 2015 in the midst of a two-year wage and hiring freeze in the public sector demonstrates that government has prioritized health.**[12] Improved staffing levels is critical for scaling up the provision of quality health services, and Zambia has made progress as demonstrated in the increased staffing levels for core health workers (doctors, clinical officers, nurses, midwives, and other clinical health workers). In comparison to national estimates for staffing needs in the health sector, the staffing deficit for core health workers reduced from 69 percent in 2005 to 43 percent in 2016. Consequently, the number of skilled attendants[13] per 10,000 population also increased from 8 to 11 providers between 2005 and 2016 (figure 20). Despite these achievements, there is still considerably under-provision of staff given the country's needs, population size, and population dispersion. Foremost, there is a significant shortage of core health workers in Zambia, with the number in post in 2016 being below the national staff establishment by 43 percent. Further, at 11 skilled attendants per 10,000 population, Zambia fits the profile for the 31 countries in Africa (and the 30 LMICs worldwide) with a density of skilled workforce lower than 22.8 per 10,000 population and a coverage of births attended by skilled attendants of less than 80 percent (WHO 2013). Thus, for Zambia, investing in HRH is critical.

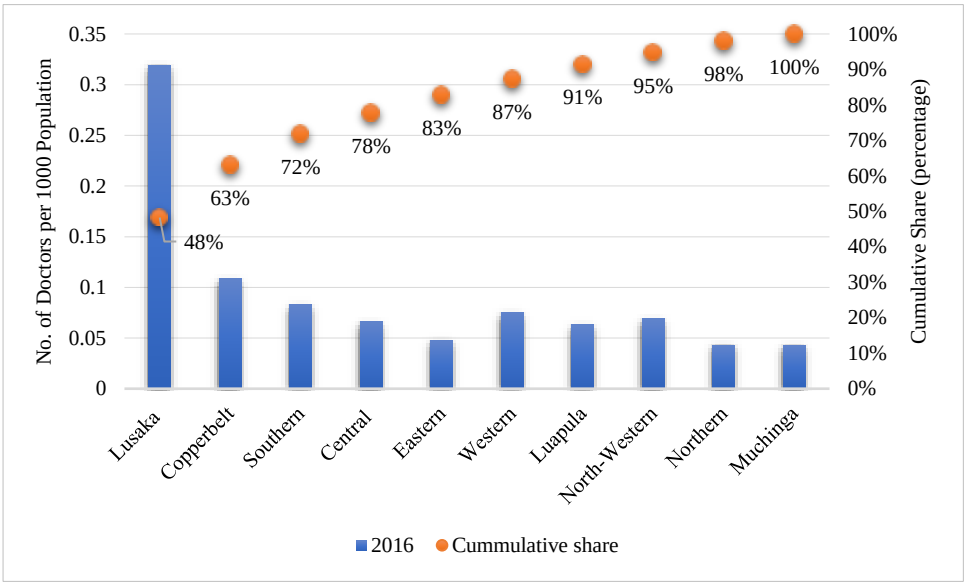
53. **While the number of core health workers in post has increased, distribution is skewed toward urban areas.** Overall, the human resource gap is greatest in rural areas which have about one core health worker per 1,000 people compared to two core health workers per

[12] In 2014, the Zambian government implemented a two-year wage and hiring (employment) freeze in the public sector aimed at reducing the proportion of government revenue spent on the public service wage bill, which was estimated at 52.5 percent in 2014.
[13] A skilled attendant is an accredited health professional "who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period and in the identification, management and referral of complications in women and newborns." (p.1) WHO (2004). In Zambia, skilled attendants are doctors, midwives, medical licentiates, clinical officers, and nurses.

1,000 people in urban areas (MOH 2018b). Further, there is an imbalance in the skills-mix particularly for doctors who are in short supply in rural areas. As shown in figure 21, most of the doctors in Zambia work in Lusaka Province which has about 0.3 doctors per 1,000 people compared to Copperbelt Province which is a distant second at 0.1 doctors per 1,000 people. About 48 percent of all doctors in Zambia work in the Lusaka Province, and this cumulates to almost 80 percent for four provinces: Lusaka, Copperbelt, Southern, and Central (figure 21). This distribution is partly explained by the fact that all the tertiary (third level) hospitals in Zambia are located in Lusaka and Copperbelt Provinces while Southern and Central Provinces have a number of general (second-level) hospitals which require a number of doctors. Nonetheless, general and district-level hospitals in the other typically rural provinces find it difficult to attract adequate numbers and mix of health workers especially doctors. This is particularly challenging because recruitment of health workers in Zambia is facilitated at the MOH headquarters. However, managers at the provincial and district levels have the authority to distribute health workers posted to their provinces and districts optimally.

54. **Despite health workers being in short supply, their productivity in Zambia is low.** This is highlighted in table 8, which suggests that a doctor in Zambia sees about two patients on average per day. This implies that doctors are underutilized especially in Lusaka Province which has the largest number of doctors and the highest population density, yet a doctor only sees one patient on average per day (table 8). As a way forward, the MOH has to institute measures to distribute the available health workers optimally and to increase their productivity. This could be achieved by implementing results-based financing (RBF) initiatives and regularly monitoring the performance of the health workers.

Figure 21: Distribution of doctors - 2016



Source: Human resource management information system.

Table 8: Workload of Doctors - Zambia 2016

Province	Population Density	No. of Doctors	Admissions	Admissions per Doctor	Per capita admissions
Central	13.4	83	36,899	445	1.7
Copperbelt	62.5	221	62,231	282	1.4
Eastern	24.6	76	60,608	797	2.1
Luapula	19.0	64	40,878	639	2.3
Lusaka	100.4	578	79,349	137	0.9
Muchinga	—	36	28,794	800	1.6
Northern	11.9	61	38,805	636	1.6
Northwestern	5.6	59	29,638	502	2.0
Southern	18.8	135	47,925	355	1.2
Western	9.0	67	26,084	389	2.0
Zambia	17.3	1,048	451,211	431	1.6

Source: Authors' calculation based on human resource management information system and health management information system.

55. **Despite the apparent need for more health workers, it will be increasingly difficult to recruit additional health workers.** The rising health workforce coupled with huge salary and wage increases that have been provided to all civil servants (including health workers) since 2011 has put more pressure on the overall national government budget making it increasingly hard to hire new staff. Historically, Zambia has over the past 20 years found it difficult to recruit all the graduates—even when the numbers of graduates were very low—due to limited government funds. Thus, a large number of the rapidly increasing graduates from health training institutions will probably not be recruited by the government. This is because the current number of graduates is far beyond the government's absorption capacity. Henceforth, the government's ambition of increasing the staffing levels for core health workers by 86 percent between 2016 and 2021, and 161 percent between 2016 and 2025 as outlined in the national HRH strategic plan 2018–2024 (MOH 2018b) will be extremely difficult to achieve due to budget constraints.

56. **To ensure that the overall public wage bill does not constrain other developmental expenditures, the Zambian government is currently implementing measures to cut the total public wage bill.** The target is to reduce the total public wage bill as a share of government domestic revenues from 47.1 percent in 2018 to 40 percent by 2021 (Ministry of Finance 2018). In other words, there are plans in place to reduce the total public wage bill as a share of GDP from 8.3 percent of GDP in 2018 to 7.7 percent of GDP in 2021 (Ministry of Finance 2018). To achieve this, new recruitments have been restricted to frontline personnel (including health workers), and only positions critical to core service delivery that fall vacant during 2018−2021 will be filled (Ministry of Finance 2018). For example, the Ministry of Finance only provided treasury authority to recruit 1,000 health workers in 2018 (Ministry of Finance 2017) even though the annual training output was 5,217 (Figure 4). This suggests that the majority of the 20,868 health workers that will be trained over 2018−2021 will most likely not be employed by the government without the assistance of cooperating partners. This leaves room for the private sector in Zambia and other countries in the region to recruit them. But considering that a lot of taxpayers' money is being used to train these health workers, the government needs to come up with viable options of how to retain these health workers in Zambia and/or how to ensure that those leaving the country are reabsorbed back to Zambia when opportunities arise. Government-to-government contractual obligations could be another option.

57. **Utilization of health services is low.** Other than the low workload among doctors, the utilization of services is very low. The hospital bed occupancy rate, for example, has decreased from 50 percent to 35 percent over the last decade, while the average length of stay has reduced by more than half from 4.9 days to 2.3 days, raising the question—what type of diseases and conditions are patients hospitalized for? (table 9).

Table 9: Utilization of services

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Hospital bed occupancy rate	50	50	31	47	38	41	45	45	45	34	35
Average length of stay in hospital	4.9	4.9	4.8	5.1	4.1	3.5	3.9	2.9	3.6	3.4	2.3
Health Facility 1st OPD attendance per capita	0.86	1.22	1.1	0.99	1.11	1.68	1.01	1.2	1.3	1.24	1.8
Hospital discharges per 100,000 inhabitants	—	—	—	2,243	2,672	2,754	2,794	2,609	2,637	2,569	2,176

Source: Health management information system.
Note: OPD = Outpatient Department.

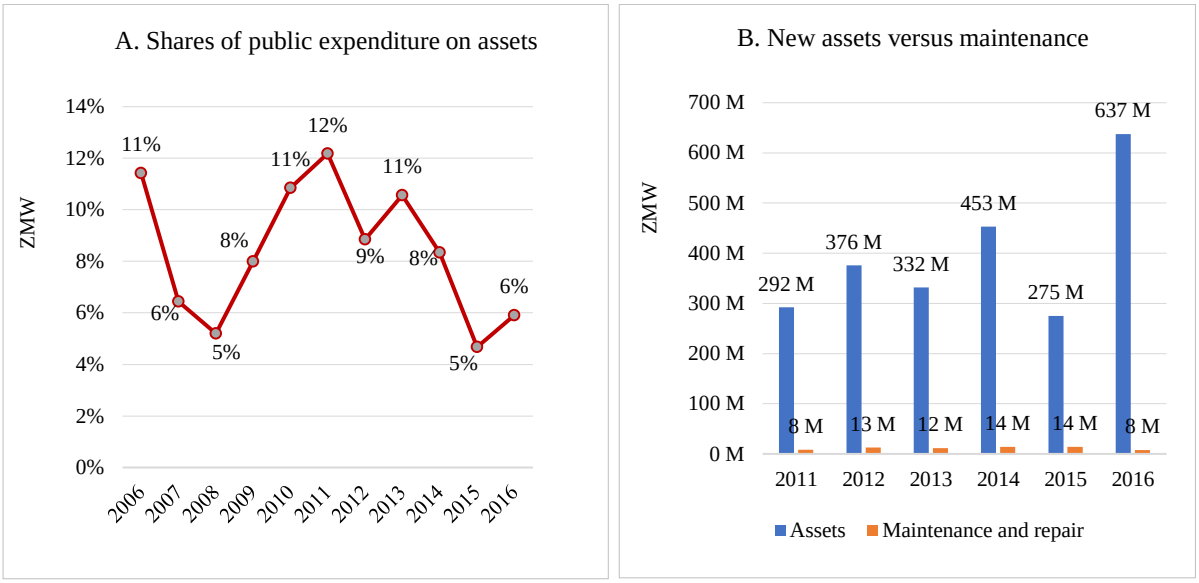
Asset Management

58. **Systems and procedures to identify, appraise, and monitor public investments in the public health system are not available.** There is little information available on how investment projects are appraised, selected, and implemented in the health sector. While assets and associated recurrent expenditures are in principle budgeted for in the same document as the recurrent budget, it is unclear to what extent recurrent cost implications are considered in the appraisal and selection process. The 2017 Public Expenditure and Financial Accountability (PEFA) assessment rates the public investment management dimension poorly with a 'D', noting that there is currently no system in place to coordinate and oversee major investment projects, and economic analyses are not conducted (World Bank 2017). Further, there is no formal system in place for project identification, screening, and appraisal, while comprehensive financial analyses are not taken into account when budgeting for the medium term. There are also no standard procedures for project monitoring in place (World Bank 2017).

59. **Investments in assets including maintenance and repair is insufficient.** Assets include construction and rehabilitation of facilities and staff housing, and procurement and maintenance of equipment, ambulances, and utility vehicles. Though investments in assets has been increasing since 2011 and more than doubled in nominal terms, the level of investment constitutes a small fraction of total public expenditure on health. Further, the rate of increase in expenditures on assets is slower than the overall growth in total public expenditure on health. Assets as a share of total public expenditure on health has decreased from 12 percent in 2011 to 6 percent in 2016 (figure 22A). The depreciation of the kwacha in recent years has made imported goods such as equipment, vehicles, and building materials a lot more expensive, and this has subsequently increased opportunity costs in domestic terms. And despite the increase in expenditure on assets in absolute terms over the years, the amount spent on maintenance and repair has stagnated at around ZMW 13 million over 2012–2015 and then dropped to ZMW 8 million in 2016. This is about 1 percent of the ZMW 637 million investment in assets in 2016 (figure 22B). Further decomposition of public expenditures on maintenance and repair also shows that maintenance of buildings consumed about 50 percent of the available resources,

leaving a small portion to other important items such as maintenance of medical equipment and vehicles.

Figure 22: Public expenditure on capital items as a share of total public expenditure on health



Source: Government financial reports 2006–2016.
Note: M = Millions; data for maintenance and repair were only clearly identifiable since 2011.

Drug Procurement

60. **Procurement of drugs is inefficient.** First, there is no links between the IFMIS and the government's electronic procurement system, leading to a situation whereby multiyear framework contracts are signed outside the IFMIS. Because contract management is entirely out of the system, the IFMIS internal budgetary controls do not apply and each contract has to be checked manually to ensure compliance with available budgetary allotments. Consequently, contracts for goods and services have in most cases exceeded the budgetary allocation. Furthermore, budget releases have often been slow such that suppliers are not paid on time. This has resulted in a significant build-up of arrears. By the end of 2015, an estimated US$30 million worth of drugs and pharmaceutical supplies were reportedly accumulated in arrears due to late release of funds by the Ministry of Finance. However, even when the Ministry of Finance releases the funds for drugs and medical supplies to the MOH, payments are not made on time which leads to an accumulation of arrears. Depreciation of the kwacha during the period under review has also contributed to the increased costs and volume of arrears. Subsequently, the MOH has incurred some penalties for late payments and some suppliers have been refusing to deliver additional drugs and medical supplies until arrears are settled.

61. **The distribution system for drugs and medical supplies that is in place in Zambia perpetuates wastage.** The drug supply chain management system in Zambia is predominantly a push system.[14] This includes a drug kit system for routine supply of essential medicines to health centers, and bulk supply of drugs to all health facilities by the Medical Stores Limited. The DHOs are also allowed to use 4 percent of the district operational grant to procure drugs for health facilities when there is an unanticipated stock-out. While the push system has advantages in terms of simplicity and rationalization of drug supplies in line with the available

[14] In a pull system, staff at health facilities calculate the types and quantities of medicines needed based on demand and place orders with the central medical store or designated supply source. In a push system, the central medical store or designated supply source predetermines the types and quantities of medicines to be delivered in line with a delivery plan.

resources, it is also associated with wastage as it does not take demand into consideration. Specifically, some of the types and quantities of medicines provided (particularly through the health kits) are not in line with the health facilities' disease profile. As a result, expiry of medicines continues to be a major problem in the public health system in Zambia. To avert the problem, Medical Stores Limited has piloted a pull system, but this system is only operational in a few districts and higher-level hospitals. However, given that financial resources in Zambia are limited, there are also problems with the pull system. Health managers at the health centers do not have enough competence in assessing needs and managing inventories, while there are insufficient supplies at the Medical Stores Limited to meet the required needs. This has contributed to inequitable distribution of drugs and frequent stock-outs at the health centers using the pull system.

Accumulation of Arrears

62. **Arrears pose a significant efficiency risk at the district and facility levels.** While districts are the lowest cost center they do not have access to the IFMIS, and expenditures are not subject to internal commitment controls through the system. Instead, funds are sent directly from the Ministry of Finance to district accounts, and the district management team spends the funds against the budget. This, however, does not ensure that funds are used for the intended purpose. Further, as cheques are not issued from the system, there is weak commitment control meaning that manual cheques can be issued whether or not there has been a budget allotment, and whether or not funds are actually available. The same holds true for health centers and health posts that receive grants from districts in form of imprest. As such, it is difficult to hold them accountable for the use of funds, and there is a risk in terms of accumulation of arrears. Arrears are of efficiency concern for two reasons: (a) suppliers usually build in risk factors in future pricing and (b) funds may not be spent according to budget. The 2015 health sector advisory group (SAG) report notes outstanding debt for the following reasons:

- Staff allowances
- Outstanding bills owed to various suppliers by health facilities
- Subscription fees payable to various institutions
- Outstanding payment for referral of patients
- Outstanding bills for electricity and water supplies

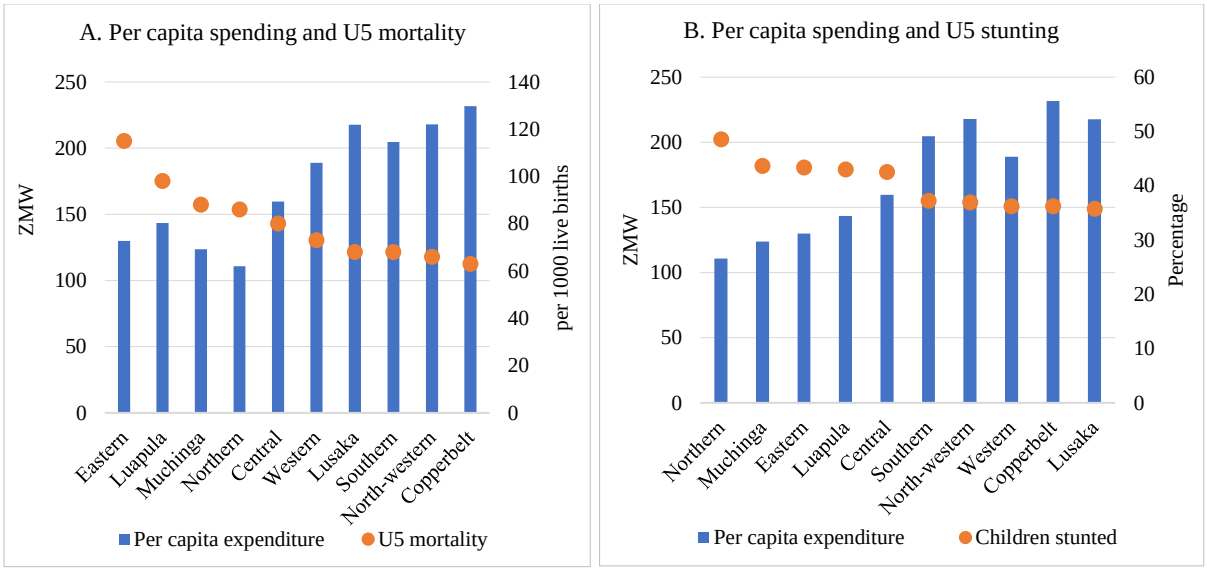
5. Equity in Resource Allocation and Use

63. **Overview.** This chapter reviews whether resources in the public sector are allocated equitably by looking at the distribution of resources by geographical location and compliance to the district resource allocation formula. The results show wide differences in per capita expenditures at the provincial level, with provinces that are already well-endowed continually spending more. This has broadened the gap between health outcomes and expenditure across provinces. The results also show that up until 2011, Zambia has been using a needs-based resource allocation formula to distribute operational grants to districts. This formula has facilitated an equitable distribution of operational grants at the district level but not the distribution of salaries and wages which is dictated by inequities in the workforce distribution and which ultimately drives an unequitable financing distribution. As the district resource allocation formula has become redundant with the proliferation of new districts since 2011, it is not clear how financial resources are currently allocated in the public health system. Through a comprehensive financing and benefit incidence analysis that was conducted as part of this PER, the chapter also presents results from a financing incidence analysis, catastrophic health expenditure analysis, and beneficiary incidence analysis (box 1).

Does Financing Follow Need?

64. **Provinces with high per capita expenditure tend to perform better.** There is a high association between health outcomes and expenditure. Provinces with high per capita expenditure also tend to perform better with regard to U5 mortality and stunting rates. While this is expected, there is a high variation between spending and health outcomes across provinces as shown in figure 23.

Figure 23: Trends in public spending on health and health outcomes



Source: Government financial reports (2006−2016); 2013/2014 Zambia Demographic Health Survey.

65. **The gap between health outcomes and expenditure has widened across provinces.** The variation in per capita expenditure and health outcomes has important allocative efficiency consequences. As outcome measures improve in some provinces where there has historically been more financing, other provinces are left behind. As the marginal return to health investments are higher in lagging regions, there are allocative inefficiencies if this variation is

not corrected over time. However, as shown in table 10, provinces with the worst U5 mortality rates in 2007 (Northern, Luapula, and Eastern Provinces) also received the lowest per capita expenditure. While progress was made in reducing U5 mortality rates in 2014, these provinces still received low per capita expenditure despite still having high U5 mortality rates. Thus, there is need to improve efficiency in resource allocation by prioritizing needy areas.

Table 10: Trend in U5 mortality and per capita financing across provinces

Province	2007 U5MR	2007 p/c exp.	2014 U5MR	2014 p/c exp.
Northern	159	32	86	95.2
Luapula	157	30	98	108.7
Eastern	151	29	115	104.8
Western	139	34	73	118.7
Lusaka	135	36	68	104.3
Copperbelt	133	33	63	116.2
Central	118	39	80	122.7
North-western	108	30	66	169.9
Southern	103	37	68	157.2
Muchinga			88	92.2

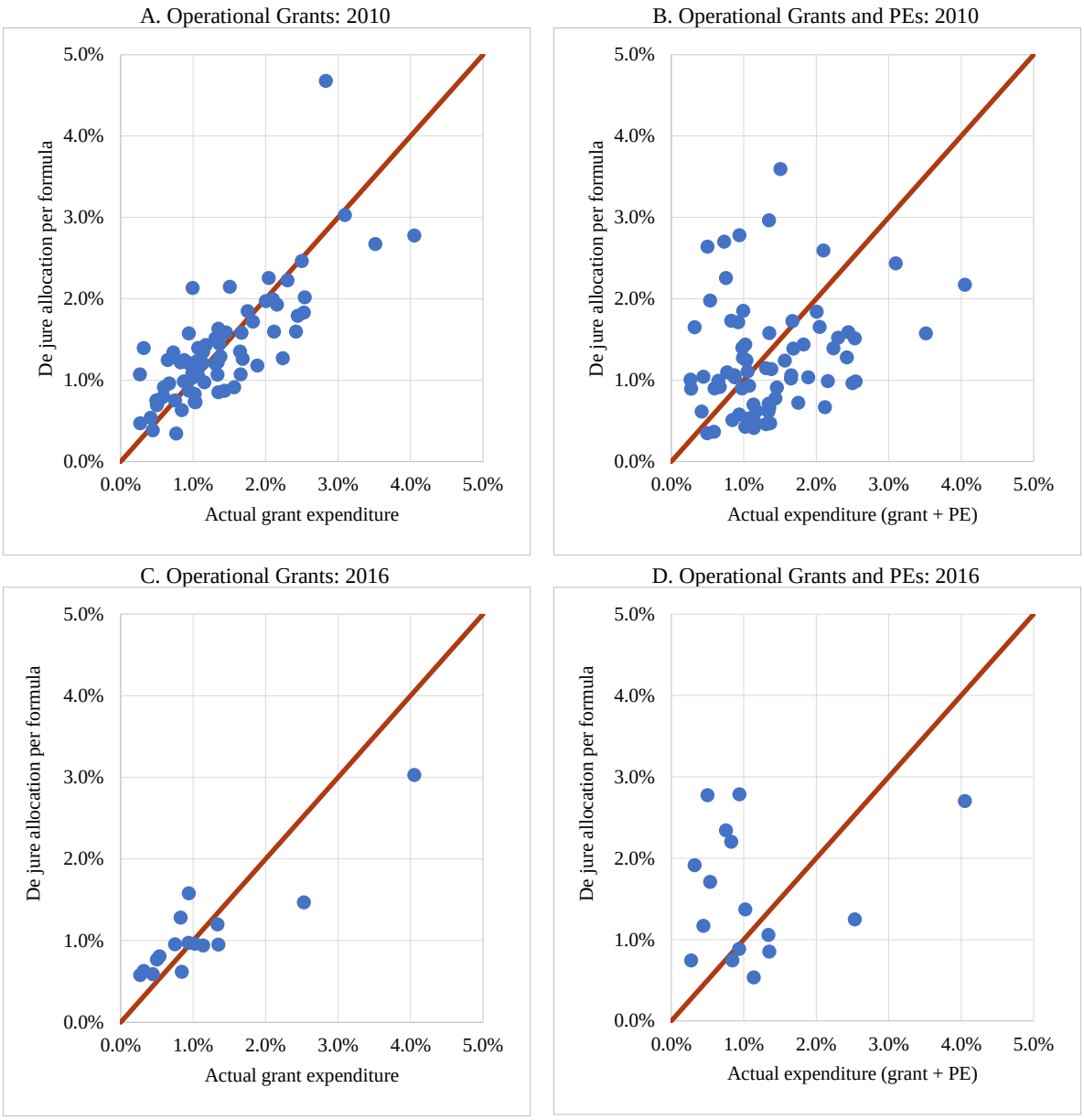
Source: Source: Government financial reports (2006–2016); 2013/2014 Zambia Demographic Health Survey.

66. **Zambia uses a needs-based resource allocation formula to distribute operational grants from the Ministry of Finance to the districts.** This formula uses a district deprivation index that estimates relative need based on a host of factors including population size and density, disease burden, and various measures of poverty. Figure 24 shows the extent to which actual expenditures are aligned to the share of total resources that the districts should receive if the formula is applied in full. The closer the data point is to the 45-degree line, the closer actual expenditure is aligned to the formula. Any districts northwest of the 45-degree line spend less than what the formula subscribes, and districts southeast spend more than what the formula subscribes, that is, what ought to be allocated. The results show that in 2010, when the formula was still actively applied, expenditures were scattered around the 45-degree line indicating that there was a reasonably close association between what the formula subscribes and actual expenditures (figure 24A). However, when PEs (that is, salaries and wages) are incorporated into the formula, there are significant deviations from the norm (figure 24B). The average difference between the de jure allocation and actual expenditure was 0.36 percent of the total expenditure, at a 0.34 standard deviation but when the PEs are incorporated, the average difference more than doubles to 0.82 percent with a standard deviation of 0.94. This suggests that PEs are a key factor in how financial resources are distributed in Zambia.

67. **Proliferation of districts from 72 in 2011 to about 116 in 2018 has made it difficult to continue applying the district resource allocation formula.** This is due to lack of data on population density and measures of poverty in the new districts. As such, the formula has been abandoned and this has perpetuated inequitable allocation of operational grants across districts. To examine this assertion, we reviewed the difference between the de jure allocation and actual expenditure for 16 districts that remained the same after the creation of additional districts in 2016 (figure 24C). We observe that actual expenditure is closer to the recommended allocation when operational grants are used but there is a dispersion when PEs are incorporated (figure 24D). Similar to 2010, the average difference between de jure allocation and actual expenditure remains the same at 0.36 percent of total resources for operational grants, but it is further spread in 2016 to 0.97 percent (from 0.82 percent in 2010) with the introduction of PE expenditures. However, the standard deviation reduced to 0.29 in 2016 ,which is indicative that the overall

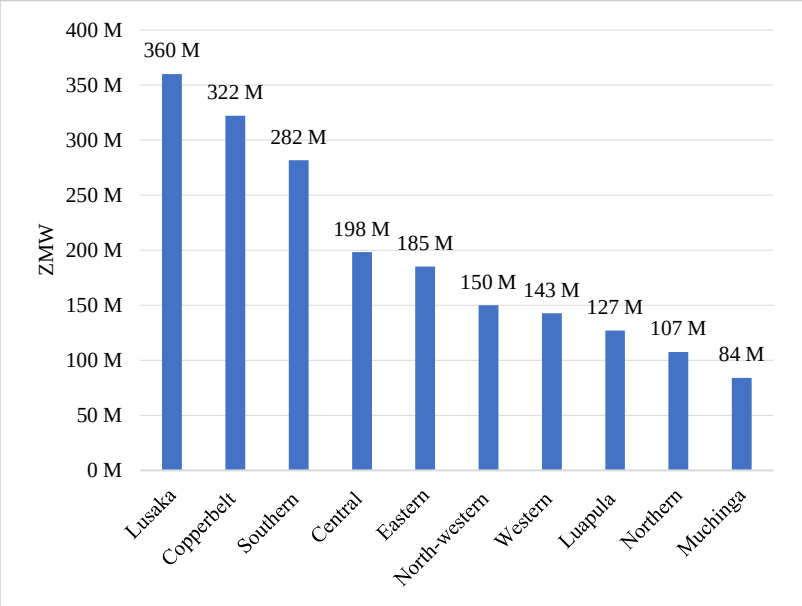
differences may be larger, but the deviation across districts is a lot closer to the mean in 2016 than they were in 2010. This suggests that continued use of the formula could help in allocating operational grants at the district level equitably, but distribution of PEs can exacerbate inequities in geographical distribution of financial resources. As shown in figure 25, public expenditure on salaries and wages is not equitably distributed across provinces.

Figure 24: Adherence to the District Resource Allocation Formula



Source: Government financial reports (2010 and 2016).

Figure 25: Per capita expenditure on PEs across provinces



Source: Government financial reports (2006–2016).

Box 1: Financing and Benefit Incidence Analysis

As part of this PER, a study was commissioned to assess whether the health system is equitable. The study used financing incidence analysis, benefit incidence analysis, and catastrophic health expenditure analysis to arrive at the conclusions highlighted in this box.

Financing incidence analysis

Results from the effective progressivity analysis for taxes in Zambia for the years 2010 and 2014 shows that the tax system as a whole is progressive. However, a review of individual taxes shows that in the fiscal year 2010, corporate income tax, value added tax, and personal income tax had varying degrees of progressivity with personal income tax being the least progressive. In 2014, personal income tax became regressive. On the other hand, excise tax was regressive in 2010 but was progressive in 2014. A further review of specific taxes that constitute the excise tax shows that alcohol tax is progressive while cigarette tax is regressive. This could be explained by the fact that in Zambia the percentage of adult men who smoke cigarettes is mostly prevalent among the poor. For OOP health spending, results show a weak progressivity in 2010 and regressivity in 2014.

Catastrophic health expenditure analysis

In line with a global study by Xu et al. (2007), household OOP health spending is regarded as catastrophic if it exceeds 40 percent of nonfood consumption. The results show that the number of households incurring catastrophic health payments decreased across all the wealth quintiles between 2010 and 2015 particularly for the poorest households. For example, the percentage of poor households incurring catastrophic health payments reduced from about 10 percent in 2010 to about 3 percent in 2015. Despite this reduction, the incidence of catastrophic health spending is higher among the poorest households (3 percent) compared to the richest households (1 percent). Though minimal, these findings suggest that catastrophic health expenditures are still prevalent among poor households in Zambia, and chances of poor households being exposed to financial hardships and poverty is relatively high.

Benefit incidence analysis

Over 2010–2015, distribution of benefits for both inpatient and outpatient services has benefited the rich more than the poor at all public health facilities (level 1, 2, and 3 hospitals and health centers) and private health facilities. However, the distribution of inpatient services for public district hospitals, public health centers, and mission health facilities is pro-poor. On the other hand, the distribution of outpatient benefits at private health facilities and public hospitals has continually been in favor of the rich over 2010–2015. Further, the distribution of outpatient benefits at faith-based health facilities moved from being pro-poor in 2010 to pro-rich in 2015. This suggests a deterioration in access to health services by the poor over the years despite the fact that mission health facilities are funded by government, provided free of charge, and are located in rural areas where most of the poor people reside. Lastly, though there has been a notable improvement in the receipt of total health care benefits in comparison to need for health care at the household level between 2010 and 2015, the poorest 20 percent of the population still receive lesser health benefits in comparison to their needs compared to richer households.

Source: World Bank (2018b).

6. Conclusions and Recommendations

(a) The overall level of health spending in Zambia is lower than peer countries. Total CHE per capita spending in Zambia at US$60 in 2016 is below the average for LMICs around the world (US$82) and the regional average for Sub-Saharan Africa countries (US$85). Further, public expenditure on health constitutes a small share of total CHE. Inadequate public spending on health in Zambia will make it difficult to achieve UHC. As a way forward, there is need to channel all funding from domestic and external sources through the public financing system so that funding is better targeted to priority programs in the country.

(b) Though government health spending has been growing in both nominal and real terms, the growth rate is insufficient to transform the health sector from being donor dependent. Thus, there is need for the government to further increase the budgetary allocation for nonwage recurrent expenditure as a share of the total government discretionary expenditure and ensure that growth in government health expenditure is commensurate with the growth in GGEs. Most importantly, the MOH in collaboration with the Ministry of Finance need to urgently develop a strategy on how the country will transition from donor support.

(c) Low predictability of funding both in terms of volume and timeliness of disbursements has contributed to poor budget performance, particularly low absorption of funds. To avert this problem, there is need for the government to ensure that funds are disbursed in line with agreed budgets and according to established timelines. In particular, it will be important for the Ministry of Finance to put in place mechanisms of protecting resources for essential services such as HRH, drugs and medical supplies, and operational grants at the district level so that there are no disruptions in service delivery.

(d) A large amount of donor funds in the health sector in Zambia are earmarked for HIV/AIDS and channeled through vertical programs. Further, the majority of the donor funds in the health sector in Zambia are off-budget. This could be attributed to inadequate confidence in the existing public financial management system in Zambia and/or preferences by donors to implement vertical projects. Nonetheless, provision of financial support through vertical programs is problematic because it undermines the stewardship role of the government and its ability to allocate funds strategically. Going forward, it will be important for donors to make greater use of government systems as this will enhance the stewardship role of government, promote national ownership, and increase aid effectiveness.

(e) Though a large share of public expenditure on health in Zambia is dedicated at the district level, the share of public expenditures on health at the secondary- and tertiary-level hospitals have also been increasing. To realize the MOH's ambition to deliver services through the PHC approach, growth in additional resources at the PHC level has to significant.

(f) Health expenditures vary considerably across provinces and districts and are only marginally associated with poverty and other health needs. This will exacerbate inequities in health over time given that a large portion of the public expenditure on health is in better performing districts. There is need for the MOH to urgently develop

a new resource allocation formula so that the process of determining budgetary allocations is objective, transparent, and needs-based.

(g) Secondary and tertiary hospitals have been raising significant revenue from user fees which has helped them to cushion the costs of some of their operations. To increase transparency and accountability in the usage of these funds, comprehensive guidelines are a necessity. Further, there is need for legislature to support the retention and use of user fees revenues at the health facilities.

(h) There has been a rapid increase in expenditure on PEs in the health sector which has crowded out current and future investments in the public health system. At 62 percent of the total public expenditure on health, Zambia's expenditure on PEs is above the norms in other LMICs and Sub-Saharan Africa which is 45 percent and 40 percent, respectively. Low investments in capital items, drugs, vaccines, and medical supplies diminish the effectiveness of the available human resources, quality of health care, and value for money. There is need for the government to optimize funding across the key programs and health systems inputs.

(i) Despite a substantial increase in public expenditure on drugs and medical supplies, the level of spending is still low, and availability of drugs at public health facilities is erratic. Public expenditure on drugs and medical supplies as a share of the total public expenditure on health increased significantly from 3 percent in 2006 to 16 percent in 2016 but is still lower that the African regional average of 33 percent. Low expenditure on drugs contributes to the erratic supply of drugs at public health facilities in Zambia and an unmet need for quality health care. There is need for more government allocation and expenditure on drugs and medical supplies.

(j) Procurement of drugs and the system distributing drugs and medical supplies is inefficient. There is no link between the IFMIS and the government's electronic procurement system leading to a situation whereby multiyear framework contracts are signed outside the IFMIS. Because contract management is entirely out of the system, the IFMIS internal budgetary controls do not apply and each contract has to be checked manually to ensure compliance with available budgetary allotments. Poor contract management has contributed to the high debt for drugs and medical supplies. It is highly recommended that all procurement contracts particularly multiyear framework contracts are linked to the IFMIS.

(k) Implementation of successive HRH strategic plans has contributed to a significant increase in the training, recruitment, and retention of health workers in Zambia. However, there is still considerable under-provision of staff given country needs, population size, and population dispersion. But though the need for more health workers is high, it will be increasingly difficult to recruit more health workers in the public sector due to budgetary constraints. Henceforth, there is urgent need for the government to come up with a viable recruitment strategy for employing health workers in the private sector in Zambia and other countries in the region. For the latter to work, government-to-government contractual obligations could be entered into. Notwithstanding the above, the best option is to recruit and retain the health workers in Zambia as the country still has a huge HRH gap.

(l) The MOH has to distribute the available health workers optimally and put in place strategies to increase their productivity. Though the recruitment of health workers in

Zambia is facilitated at the MOH headquarters, managers at the provincial and district levels have the authority to optimally distribute health workers posted to their provinces and districts. Therefore, officials at the MOH headquarters need to ensure that they do so. Further, productivity of the health workers could be achieved by implementing RBF initiatives and regularly monitoring the performance of the health workers.

(m) To increase accountability and performance at the PHC level, the government could consider disbursing the operational grants for district hospitals and health centers directly from the Ministry of Finance to the health facilities. Experiences can be drawn from health facilities implementing RBF and schools in the education sector in Zambia which receive operational grants directly from the Ministry of Finance.

(n) Public financial management system at the MOH, particularly at the district level is weak. There is need for a suitable accounting and financial reporting system especially at the district level. Further, the Ministry of Finance needs to come up with a user-friendly format of reporting income and expenditure as the current government financial reports (blue books) are not user-friendly.

Bibliography

Achoki, T. and C. Chansa. 2013. "Impact of Funding Modalities on Maternal and Child Health Intervention Coverage in Zambia." *Health Policy and Technology* 2: 162–167.

Bennett, S., J. D. Quick, and G. Velasquez. 1997. *Public-Private Roles in the Pharmaceutical Sector: Implications for Equitable Access and Rational Drug Use*. Geneva: World Health Organization.

Cashin, C., D. Bloom, S. Sparkes, H. Barroy, J. Kutzin, and S. O'Dougherty. 2017. *Aligning Public Financial Management and Health Financing: Sustaining Progress Toward Universal Health Coverage.* Geneva: World Health Organization.

Chansa, C., J. Sundewall, and N. Östlund. 2018. "Effect of Currency Exchange Rate Fluctuations on Aid Effectiveness in the Health Sector in Zambia." *Health Policy and Planning* 1: czy046–czy046.

Chilufya, C., and M. Kamanga. 2018. "Crunch Time: The Transformational Universal Health Coverage Agenda for Zambia." *Health Systems and Reform* 4.

CSO (Zambia Central Statistics Office). 2013. *Population and Demographic Projections: 2011-2035.* Lusaka: Central Statistics Office.

————. 2015. *Zambia Labour Force Survey Report 2014*. Lusaka: Central Statistical Office

————. 2016. *2015 Living Conditions Monitoring Survey Report*. Lusaka: Central Statistical Office.

Fullman, N., J. Yearwood, S. M. Abay, C. Abbafati, F. Abd-Allah, J. Abdela, A. Abdelalim, Z. Abebe, T. A. Abebo, and V. Aboyans. 2018. "Measuring Performance on the Healthcare Access and Quality Index for 195 Countries and Territories and Selected Subnational Locations: A Systematic Analysis from the Global Burden of Disease Study 2016." *The Lancet* 391: 2236–2271.

GRZ (Government of Zambia). 2018. *Organization Structure Report for the Ministry of Health*. Lusaka: Management Development Division, Cabinet Office.

Kutzin, J. 2016. *Why Does Public Finance Matter for UHC?* http://www.who.int/health_financing/events/JosephKutzin-why-does-public-finance-matter-for-uhc.pdf?ua=1 (Accessed on June 22, 2018).

Mcintyre, D., F. Meheus, and J. A. Røttingen. 2017. "What Level of Domestic Government Health Expenditure Should We Aspire to for Universal Health Coverage?" *Health Economics, Policy and Law* 12: 125–137.

Ministry of Finance. 2017. *2018 Budget Address by the Minister of Finance.* Lusaka: Ministry of Finance.

————. 2018. *2019-2021 Medium Term Expenditure Framework and 2019 Budget.* Lusaka: Ministry of Finance.

MOH (Ministry of Health). 2007. *Revised Guidelines on the Removal of User Fees at Government and Mission Health Facilities in Zambia.* Lusaka: MOH.

————. 2011. *National Human Resources for Health Strategic Plan 2011–2015.* Lusaka: MOH.

————. 2012. *National Health Policy.* Lusaka: MOH.

————. 2015. *Zambia Rapid Health Sector Performance Assessment.* A report prepared by the World Health Organization on behalf of the Ministry of Health. Lusaka: MOH.

————. 2018a. *National Health Accounts 2013–2016.* Lusaka: MOH.

————. 2018b. *National Human Resources for Health Strategic Plan 2018–2024.* Lusaka MOH.

————. 2018c. *Zambia National Rational Use of Medicines Study* Lusaka: MOH.

Roger, L., G. Smith, and O. Morrissey. 2017. *Exchange Rate and Inflation Dynamics in Zambia*. Washington, DC: World Bank Group.

Sikamo, J., A. Mwanza, and C. Mweemba. 2016. "Copper Mining in Zambia - History and Future." *Journal of the Southern African Institute of Mining and Metallurgy* 116: 491–496. http://www.scielo.org.za/pdf/jsaimm/v116n6/03.pdf.

Vujicic, M., K. Ohiri, and S. Sparkes. 2009. *Working in Health: Financing and Managing the Public Sector Health Workforce.* Washington, DC: World Bank.

World Bank. 2016. *First Universal Health Coverage Financing Forum: Raising Funds for Health.* Background Paper. http://pubdocs.worldbank.org/en/103621460561160053/DRM-policy-note-041216-clean.pdf.

————. 2017. *Report on the Evaluation of the Public Financial Management System of Zambia.* Washington, DC: World Bank

————. 2018a. *Zambia Systematic Country Diagnostic*. Washington, DC: World Bank

————. 2018b. *Equity in Financing and Distribution of Health Benefits in Zambia*. Washington, DC: World Bank

————. 2018c. *Zambia Economic Brief: An Agro-led Structural Transformation.* Issue No. 11. Washington, DC: World Bank.

WHO (World Health Organization). 2004. *Making Pregnancy Safer: The Critical Role of the Skilled Attendant. A Joint Statement by WHO, ICM, and FIGO.* Geneva: WHO.

————. 2013. *A Universal Truth: No Health Without a Workforce.* Geneva: WHO.

————. 2017. *Zambia Service Availability and Readiness Assessment 2015 Report*. Geneva: WHO.

Xu, K., D. B. Evans, G. Carrin, A. M. Aguilar-Rivera, P. Musgrove, and T. Evans. 2007. "Protecting Households from Catastrophic Health Spending." *Health Affairs* 26 (4): 972–983.

Appendix A. Fiscal Space for Health

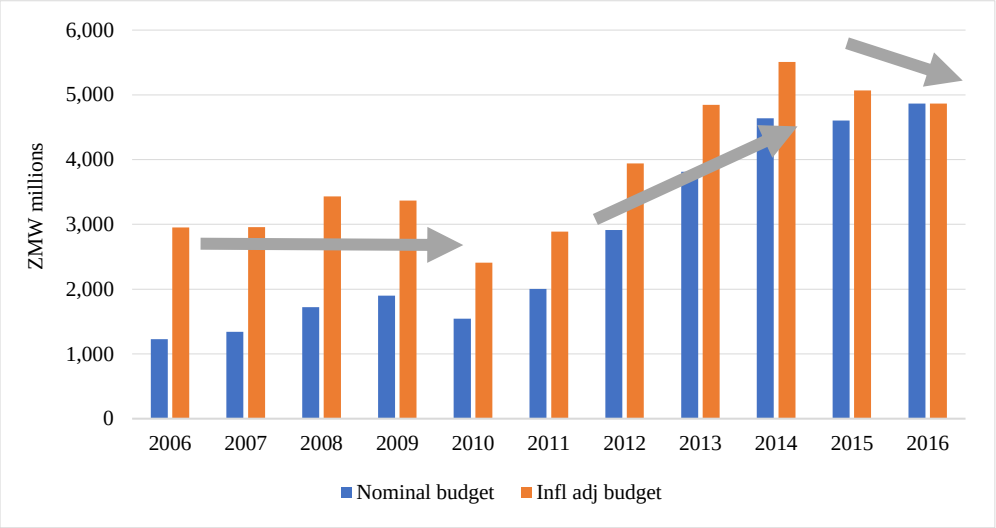
1. **This chapter reviews the various revenue sources for health, trends, and opportunities for increasing fiscal space for health.** In this chapter, only three of the five main avenues for generating additional fiscal space for health are examined. This includes (a) mobilization of additional resources from the government budget, (b) reprioritization of the government budget, and (c) health-sector specific domestic revenue sources through the medical levy, sin taxes, user fees, and health insurance. Donor financing and efficiency—which are the two remaining avenues—have already been discussed extensively in previous chapters. The results show that the capacity of the health sector to mobilize additional resources from the government depends on the prevailing macroeconomic conditions. The ability of the health sector to mobilize additional resources from the government budget depends on the government's willingness to allocate more funds to the social sectors, its prior commitments with regard to statutory expenditures that are nonnegotiable (such as debt payments and wages and salaries), and the government's capacity to raise additional funds.

2. **Over the years, funding to the health sector from the government budget has been determined by availability of funds from general government revenue streams.** This implies that financing for essential services is not protected against economic downturns. Revenue for health has recently come under pressure from rapidly increasing debt service payments and wage commitments. Consequently, there is limited space for discretionary financing to the health sector from the general government budget. Sin taxes are already high and there is limited room for further increase. Furthermore, there is no desire to earmark the existing revenues from sin taxes to the health sector as there are competing demands on the already constrained national government budget from other sectors. And despite being abolished at all PHC facilities in 2012, medical user fees still play an increasingly important role with regard to funding operational costs at level 2 and 3 hospitals. However, there is need to formalize the process of collecting and utilizing revenues from medical user fees so as to reduce potential leakages. Lastly, the Zambian government is in the process of introducing an NHI scheme but the revenue potential is presumably low given the large size of the informal sector and large number of low paying jobs in the country.

Resources Mobilization from Government Sources

3. **Financial allocations to the health sector closely follows Zambia's macroeconomic performance.** Total government allocations to the health sector have been relatively flat between 2006 and 2009. After an initial drop in 2010 following the global financial crisis, the budget picked up rapidly and reached a highpoint in 2014. The period 2011−2014 corresponds to a period of overall strong economic performance. During this period, the average real budgetary increase for health has been a remarkable 23 percent. However, during the 2015−2016 economic downturn in Zambia and other countries in Southern Africa, the inflation adjusted budget contracted again (figure A.1). During this period, there was a sharp depreciation in the exchange rate, associated with a weakened external position—which meant that the contraction of the health budget in dollar terms was even more pronounced. Subsequently, the health budget in U.S. dollar terms is returning to pre-global crisis values. While this bares little consequences for items procured in local currency, the implications for goods and services denominated in foreign currency such as drugs were severe. See Chansa et al (2018) for an analysis of the effect of currency exchange rate fluctuations on health service delivery in Zambia.

Figure A.1: Public sector health budget corresponds to economic developments

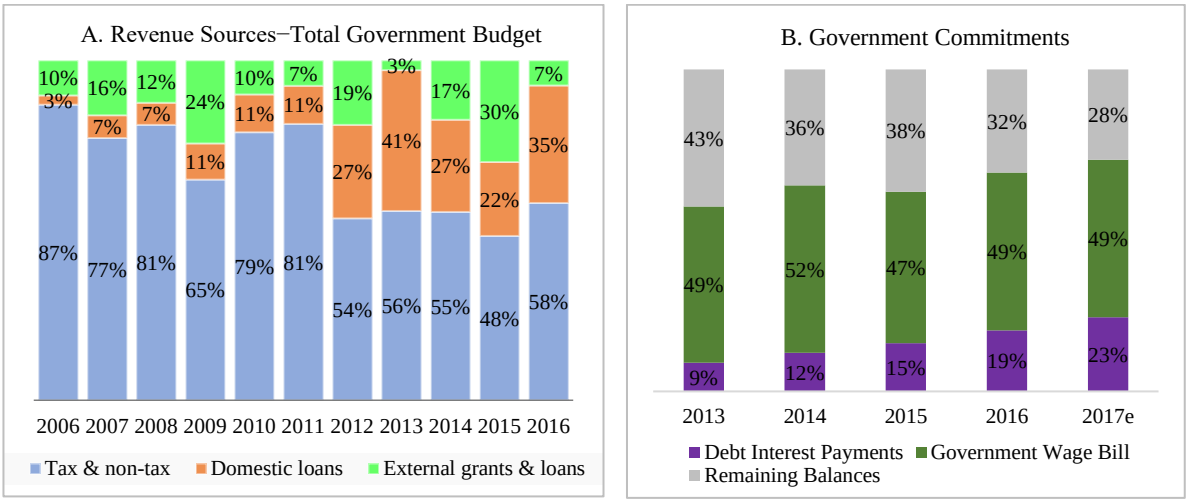


Source: Government financial reports (2006–2016).

4. **The health budget is volatile and allocations to essential services are most vulnerable to cuts.** The trend in budgetary allocations to the health sector shows that it is closely aligned with macroeconomic developments in the country. While this may be advantageous during times of strong economic performance, budgetary allocations are volatile and visibly not protected during economic downturns. In such an environment, funding for essential services are the most vulnerable, as quasi-statutory elements of the budget, such as wages and salaries, are difficult to cut. This is particularly concerning, given that Zambia's economic performance is over-reliant on the mining sector (specifically copper)—the global demand of which is external and fluctuating. It is important, therefore, to cushion against such shocks, such that the implications to deliver essential services are moderate. The likelihood of mobilizing additional resources during such times also seems unlikely.

5. **Zambia has increasingly issued domestic and external debt in recent years, straining the total government budget further.** The share of the total government budget from domestic and external loans has been increasing since 2012 (figure A.2). As a result, Zambia's debt-to-GDP ratio has more than doubled from about 21 percent of GDP in 2011 to 53 percent in 2016 (table 1). The bundle of external loans also include US$3 billion worth of Eurobonds from which the health sector has also benefited through a US$29 million allocation in 2012 for the construction and renovation of hospital infrastructure. However, going forward, the budget is subject to high interest payments that will limit the flexibility of the government to allocate resources toward essential services, as is already clearly visible from the 2016 budget where 68 percent of the total government budget was earmarked for statutory expenditure items (wage bill and debt repayments). The declining resource envelope for service delivery is shown in figure A.2. It remains to be seen whether the capital investments undertaken with these expenditures will yield higher returns and revenues for the government than the strain they impose on the budget. This implies that the government will find it difficult to generate additional resources for the health sector by re-prioritizing the government budget due to the high debt levels and declining resource envelope.

Figure A.2: Shrinking resources available for service delivery



Source: Government financial reports; and World Bank 2018c.

Resource Mobilization through Health Sector-Specific Domestic Sources

6. **Abolishment of the medical levy has taken away an important source of fungible revenue for recurrent expenses.** The medical levy was enacted on April 1, 2003, aimed at raising additional revenue for the health sector. The medical levy was charged at a rate of one percent on gross interest earned by any person, businesses, and partnerships on all savings and deposit accounts, treasury bills or government bonds, and other similar financial instruments. The medical levy was abolished in January 2013 aimed at restoring a culture of savings and investment. The total amount of money that was collected from the medical levy between 2006 and 2013 was ZMW 99.75 million, which is approximately 0.7 percent of the total public expenditure on health between 2006 and 2013 (table A.1). Though seemingly low, the revenue from the medical levy was significant and was used to finance maternity shelters and for the procurement of essential drugs and medical supplies. At the time that the medical levy was abolished, about ZMW 2 million was being generated per month, and there were lesser financial transactions in the economy.

Table A.1: Relevance of the medical levy

	Medical Levy (ZMW, millions)	Share of Total Health Budget (%)	Share of Drugs Budget (%)
2006	6	0.5	24.5
2007	9	0.7	11.5
2008	13	0.7	7.2
2009	13	0.7	7.2
2010	18	1.1	15.5
2011	16	0.8	9.5
2012	24	0.8	11.3
2013	1	0.0	0.2
2014	—	—	—
2015	—	—	—
2016	—	—	—
Total	100	0.7	10.9

Source: Government financial reports 2006–2016; Auditor general report 2010.

7. **Sin taxes are high, and there is limited room for expansion.** Sin taxes, especially for tobacco products, are at an already very high rate (see table A.2). The excise duty rates for tobacco products are currently at 145 percent, which is significantly high. Revenues from these sources are pooled by the treasury and not earmarked to the health sector. Indications from the Ministry of Finance is that there is no intention to increase the tax rates further nor is there a desire to earmark the existing revenues to the health sector since the revenues are already part of the national government budget.

Table A.2: Sin tax rates

Items	***Sin Taxes***
Clear beer	40%
Opaque beer	ZMW 0.15 per lt.
All type of wines	60%
Undenatured ethyl alcohol of an alcoholic strength by volume of less than 80%, spirits, liqueurs and other spirituous beverage	60%
Cigars, cheroots, cigarillos, and cigarettes of tobacco substitutes	145% or ZMW 200/mille
Other manufactured tobacco substitutes "homogenized" or reconstituted tobacco extracts and essences.	145% or ZMW 200/mille

Source: Zambia revenue authority[15]

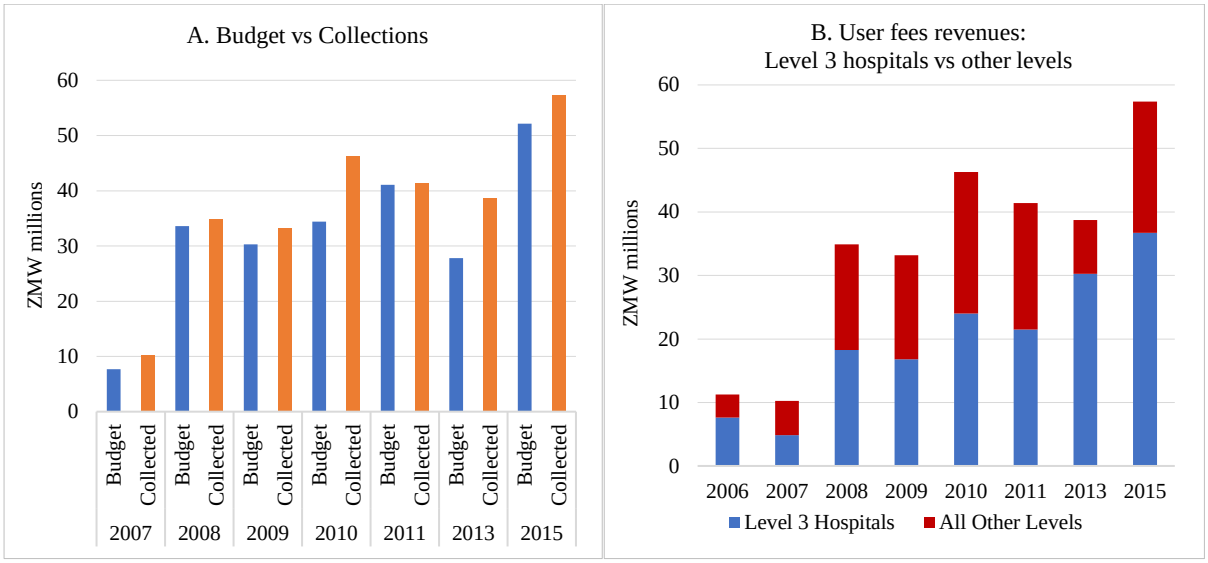
8. **Revenue from user fees has increased and cover a huge amount of operational costs at the secondary and tertiary level hospitals.** User fees were initially abolished in all rural districts in 2006 after which the policy was extended to peri-urban areas in 2007, and eventually the entire PHC level in 2012. Secondary- and tertiary-level hospitals are allowed to charge bypass fees to patients who are not referred from lower levels and to generate revenue through the fast-track system or high-cost schemes. A review of revenue generated from user fees over 2006−2015 shows a significant increase in revenues, with about 60 percent of the total user fees revenue being generated at level 3 hospitals on average per year (figure A.3). User fees as a share of the total public expenditure on health was about 2 percent on average per year over 2006–2015. Further, revenue from user fees is more predictable, and money generated is retained and used at the hospitals. As shown in figure A.3, revenue from user fees generally exceeded the original budgets by about 15–20 percent. User fees play a critical role in covering some of the operational costs at the hospitals.

9. **There is no formal system for tracking the collection and utilization of revenue from user fees.** Each hospital runs its own system which is not linked to the examining medical personal, patient data, pharmacy, procurement, and accounting software. Apart from issuance of manual receipts and capturing of transactions in manual ledger books, the user fees revenue collection and funds utilization systems that are in place at most of the hospitals are rudimentary and vulnerable to manipulation. While the expected revenues from user fees are captured in the district action plans, the actual amounts of funds received are not reported back to the MOH. While some of the data used to be captured in the SAG financial reports, the level of detail was insufficient. Ultimately, financial reporting for user fees revenues is fragmented, and considering that the MOH has stopped holding SAG meetings, it is unclear how the revenues generated through user fees will be reported. Further, though user fees revenues are retained and used at the health facilities, there is no legislature in support of this practice and

15 https://www.zra.org.zm/download.htm?URL_TO_DOWNLOAD=//web_upload//PUB//Excise%20Duty%20Guide08072016105526.pdf

how the money should be used. Going forward, there is need for a formal system for tracking the collection and utilization of revenue from user fees; and legislature to support the retention and use of user fees revenues at the health facilities.

Figure A.3: Trends in user fees revenue collection



Source: Various sector advisory group reports.
Note: No data were available for 2012, 2014, and 2016.

10. **The Zambian government is in the process of introducing an NHI scheme.** Through the NHI scheme, the MOH is optimistic that it will achieve sound financing for the health sector and universal access to quality health care services. However, generating sufficient amounts of revenue through the NHI scheme will be difficult given the large informal sector, huge number of low paying jobs, huge disease burden, and high levels of poverty. About 84 percent of the labor force in Zambia works in the informal sector (CSO 2015) with very low paying jobs[16] while 77 percent of the people in rural areas were living below the national poverty line[17] in 2015 compared to 23 percent in urban areas (CSO 2016). Henceforth, due to the high levels of informality in the labor market, enforcing contribution through an insurance scheme is likely to be difficult. Further, an effective public financial management environment is required to enable an effective provider payment and accreditation system. Therefore, the government has to plan meticulously particularly around the benefit package and how to incorporate the informal sector and the poor before rolling out the NHI scheme.

[16] The average monthly earning in the formal sector where only 16 percent of the labor force works is ZMW 3,009 (US$284) while in the informal sector where 84 percent of the labor force works it is ZMW1,214 (US$115). *Source*: CSO (2015).
[17] The national poverty line comprises food and non-food items to meet a minimum standard of living. The poverty line per adult equivalent per month was estimated at ZMW 214 per month or ZMW 7.13 per day in 2015. This is equivalent to US$29.32 per month or US$0.98 per day in 2015 terms.

Appendix B. Expenditures at Headquarters (2016)

Department and Spending Unit	Actual Expenditure (ZMW, millions)	Share of Expenditure (%)
CLINICAL CARE and DIAGNOSTICS SERVICES	1,343	76.0
Clinical Care and Diagnostic Services	738	54.9
University Teaching Hospital	273	20.3
Ndola Central Hospital	85	6.3
Kitwe Central Hospital	61	4.5
Cancer Diseases Hospital	60	4.5
Chainama Hills Hospital	50	3.7
Livingstone Central Hospital	44	3.2
Arthur Davison Hospital	33	2.5
DISEASE SURVEILLANCE CONTROL AND RESEARCH	6	0.4
Disease Surveillance and Control	5	75.8
Malaria Control and Research	1	13.0
ENVIRONMENTAL HEALTH OCCUPATIONAL HEALTH	1	11.1
HUMAN RESOURCE AND ADMINISTRATION	296	16.7
Administration	285	96.5
Human Resource Development	8	2.6
Human Resource Management	1	0.4
Accounts	1	0.2
Internal Audit	1	0.2
Procurement and Supplies	0	0.1
Human Resource Planning	0	0.1
MOBILE AND EMERGENCY SERVICES	8	0.5
Emergency Health Services	6	72.6
Mobile Outreach Services	2	27.4
MOTHER AND CHILD HEALTH	1	0.1
Child Health Unit	1	49.3
Epidemiology and Disease Control Unit	0	19.1
NCDs Unit	0	14.6
Reproductive Health Unit	0	11.4
Human Resources and Administration Unit	0	5.5
POLICY AND PLANNING	110	6.3
Planning and Budgeting	107	97.2
Health Infrastructure Planning	3	2.4
Health Policy	0	0.3
Monitoring and Evaluation	0	0.1
Bilateral and Multilateral Aid Coordinator	0	0.1
TECHNICAL SUPPORT	2	0.1
Technical Support	2	100.0
Grand Total	**1,766**	**100.0**

Appendix C: Expenditures at provinces and districts (2016)

Provinces and Districts	Actual Expenditure (ZMW, millions)	Share of Expenditure (%)
COPPERBELT	376	17.8
PHO	22	5.7
DHO	285	75.6
Level 1 Hospital	7	1.9
Level 2 Hospital	56	15.0
Training Institution	6	1.5
Other	1	0.2
EASTERN	247	11.7
PHO	29	11.8
DHO	163	65.9
Level 2 Hospital	52	21.2
Training Institution	3	1.1
LUAPULA	177	8.4
PHO	24	13.5
DHO	113	64.1
Level 1 Hospital	9	5.2
Level 2 Hospital	29	16.3
Training Institution	2	0.9
LUSAKA	311	14.7
PHO	20	6.3
DHO	96	31.0
Headquarters	152	49.1
Level 2 Hospital	35	11.3
Training Institution	3	1.0
Other	4	1.3
MUCHINGA	120	5.7
PHO	21	17.6
DHO	76	63.7
Headquarters	7	6.2
Level 2 Hospital	14	12.0
Training Institution	1	0.5
NORTHERN	156	7.4
PHO	25	15.8
DHO	88	56.0
Level 2 Hospital	43	27.5
Training Institution	1	0.7
NORTHWESTERN	189	9.0
PHO	25	13.0
DHO	112	59.3
Headquarters	10	5.4

Provinces and Districts	Actual Expenditure (ZMW, millions)	Share of Expenditure (%)
Level 2 Hospital	40	21.0
Training Institution	2	1.3
SOUTHERN	341	16.2
PHO	24	7.1
DHO	223	65.4
Level 1 Hospital	21	6.1
Level 2 Hospital	69	20.1
Training Institution	4	1.1
Other	1	0.2
WESTERN	191	9.1
PHO	25	13.0
DHO	127	66.5
Level 2 Hospital	38	19.8
Training Institution	1	0.7
Total	**2,108**	**100.0**