REPUBLIC OF ZAMBIA

MINISTRY OF HEALTH

NATIONAL HUMAN RESOURCES FOR HEALTH STRATEGIC PLAN 2018 -2024

HR Leadership

HR Information System

Academic Health Complexes

Specialty Training Programme

Information Communication Technology

Health Workforce Outputs, Recruitment & Retention

Re-shaping Zambia's Human Resources for Health to become Self-Sufficient by 2030

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ACCELERATE INVESTMENT IN TRANSFORMATIVE HEALTH PROFESSIONS' EDUCATION, SKILLS, AND JOBS

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FOREWORD

The troublesome problem of severe shortage of human capital in the health system has persisted in Zambia for over twenty years denying millions of its people access to basic and specialist care. Equitable access to cost-effective quality health care as close to family as possible cannot be achieved if Zambia does not have competent and appropriately skilled health professionals. The inadequate numbers of the health workforce also cause geographical distribution inequalities because the skilled health workforce gravitates to urban settings leaving the rural areas underserved. Further, the health system has for many decades emphasized curative services while underplaying promotive, preventive, rehabilitative and palliatives services.

To achieve self-sufficiency in the HWF, first, Zambia will need to almost double the number of its human workforce from the current 42,630 to 80,274 by training and recruiting an additional 37,644 staff by 2025 if it is to serve satisfactorily the expected population of 20,574,138. Second, health financing and the recruitment, development, training and retention of the health workforce must increase substantially. This is the aspiration of the Sustainable Development Goal (SDG) 3c target.

These and other related considerations, are what underpin this National Human Resources for Health Strategic Plan (NHRH SP)'s very ambitious plan to attain human resources for health self-sufficiency. Seven strategic priorities and objectives and 29 key result areas embody Zambia's response to the HRH absolute shortage. The strategic priorities are as follows, to:

1) Transform human resources for health leadership and governance.
2) Operationalize human resources for health information system (HRIS).
3) Transform health professionals' education and training by creating a nationwide network of academic health complexes (AHCs).
4) Establish the specialty training programme (STP).
5) Accelerate human resources for health outputs.
6) Harness information communication technologies in health professionals' education and training.
7) Scale up health workforce recruitment, equitable distribution and retention.

The Ministry of Health recognizes that substantial and sustained long-term investments backed by political will, strong commitments and effective implementation of its HRH policies must be fostered if Zambia is to achieve UHC and the legacy goals of its National Health Strategic Plan (2017 – 2021).

Hon. Dr. Chitalu Chilufya, MP
MINISTER OF HEALTH

ACKNOWLEDGEMENTS

The NHRH SP presented in this document contains a set of seven (7) strategic priorities, seven (7) strategic objectives further divided into 29 key result areas and 99 strategies that provide concise information on the planned interventions, for the next seven years (2018 -2024), regarding the health workforce situation and trends in Zambia. It is primarily based on a comprehensive consultative process between the Ministry of Health, the HRH Technical Working Group, and other pertinent stakeholders in the HRH space. The strategic plan term is 7 years to account for the two years that were lost in the transition after the last strategic plan expired in 2015 and a further six months that may be lost in 2018 in lieu of the duration for dissemination and before implementation begins.

The purpose of the NHRH SP is to be a guiding framework for HRH interventions in the health sector and to coordinate the collaborative efforts of the many stakeholders in health workforce planning, development and management. It will also support tracking HRH policy performance towards the goal of the National Health Strategic Plan (2017 – 2021) and global targets for achieving universal health coverage. The NHRH SP is designed to focus on key indicators and data characteristics that can be regularly measured in order to:

- generate reliable health workforce information and evidence;
- enable the planning, implementation and monitoring of workforce policies towards goals of National Health Strategic Plan (2017 – 2021) and UHC;
- guide and inform the transformation and scale-up of health workforce education and training in support of UHC.
- strengthen policies, strategies and plans, through intersectoral policy dialogue among the relevant ministries that may include ministries of higher education, health and finance.
- enable more focused research to be performed about future trends regarding the health workforce and attendant systems.

The NHRH SP was developed through a stepwise process that included scoping of the existing policies and strategy frameworks, literature review, and several phases of extensive consultation at district, provincial and national levels. Several draft versions of the NHRH SP were circulated for feedback. Additionally, HRH strategy workshops were held with the HRH TWG, three cluster-provincial and one national level meetings. The participants were asked to evaluate the drafts bearing in mind criteria of relevance, feasibility and current national context.

The Ministry of Health is profoundly grateful to partners and stakeholders for the financial, technical and logistic support it received in order to develop this NHRH SP. I trust that they will together help the MoH to implement this NHRH strategic plan.

Dr. Kennedy Malama
Permanent Secretary (Administration)
MINISTRY OF HEALTH

WORKING DEFINITIONS

Term	Definition
Capacity Building	The development and strengthening of human and institutional resources.
Continued Professional Development	The process of tracking and documenting the skills, knowledge and experience gained both formally and informally as one is in work, beyond any initial training.
Faculty Development	Staff progression in skill sets required for efficient and effective performance in their role as educators.
Health Professional	A Healthcare professional that has studied, advises on or provides preventive, curative, rehabilitative and promotional health services based on an extensive body of theoretical and factual knowledge in diagnosis and treatment of disease and other health problems acquired in higher education.
Health Professions' Educator	A skilled and certified healthcare professional with high level of professional expertise who is designated to provide students & professionals with practical and skills-oriented instruction in settings that pertain to health care. In addition, they have educator training.
Health Worker Density	A health worker density estimate, that is, doctors, nurses, and midwives. It does not encompass the roles of other important categories of the health workers such as pharmacists, laboratory technicians and scientists as well as radiographers and physiotherapists among others.
Combined Health Worker Density	A health worker density estimate, that includes doctors, nurses, and midwives, pharmacists, laboratory technicians and scientists as well as radiographers and physiotherapists among others.
Human Resources for Health (HRH) or Health Workforce (HWF)	Health workers classified into five broad groupings: health professionals, health associate professionals, personal care workers in health services, health management and support personnel, and other service providers not elsewhere classified.
Human Resources for Health Development	The educational and training process of building knowledge, skills and attitudes of future healthcare professionals or building capacity for healthcare professionals who are already in the healthcare professions.

Human Resources for Health Planning	The management process of forecasting, devising and implementing interventions for the production, recruitment, retention of human resources for health harmonized to present and future health sector needs.
Human Resources Information System	A software package for obtaining, compiling, analyzing and reporting data regarding information health workforce metrics across the core dimensions of national capacity and contents of the human resources for health (HRH) database: • Tracking stock and mix of HRH. • Tracking output of health professions education institutions.
Human Resources Learning Management Information System	A software application for the administration, documentation, tracking, reporting and delivery of health professions educational courses or training programmes
In-Service	Refers to the state of presently being in employment in the sector.
Pre-Service	Refers to the developmental state of being prepared for future employment in the sector.
Quality Human Resources for Health	Quality denotes competence and fitness for purpose in a functional health system.
Skill Development	The process of helping health professions to do their work better with particular reference to practical skills.
Specialist Training	The educational and training process of building knowledge, skills and attitudes to a high level of professional expertise in a particular specialty of a health profession. A health professions specialist completes education and training recognized and approved by Specialist Professional Bodies or higher education institutions.

ABBREVIATIONS & ACRONYMS

ACRONYM	MEANING
AHCs	Academic Health Complexes
AIDS	Acquired Immune Deficiency Syndrome
APAS	Annual Performance Appraisal System
CDC	Centres for Diseases Control and Prevention
CHA	Community Health Assistant
CHAI	Clinton Health Access Initiative
CHAZ	Churches Health Association of Zambia
CIDRZ	Centre for Diseases Research in Zambia
CPD	Continued Professional Development
CPs	Cooperating Partners
CSO	Central Statistical Office
DALY	Disability-Adjusted Life Year
DFID	Department for International Development (United Kingdom)
DMO	District Health Office
DHRA	Director of Human Resources and Administration
DHRMA	Department of Human Resources Management and Administration
DTD	Department of Training and Development
ECSA-HC	East Central Southern Africa – Health Community
FTE	Full-time Equivalent
GDP	Gross Domestic Product
GFATM	Global Fund to Fight AIDS, TB, Malaria
GHWA	Global Health Workforce Alliance
GNC	General Nursing Council
GRZ	Government of the Republic of Zambia
HEA	Higher Education Authority
HIV	Human Immunodeficiency Virus
HLMF	Health Labour Market Framework
HPCZ	Health Professions Council of Zambia
HQ	Headquarters
HR	Human Resource
HR TIMS	Human Resources Training Information Management System
HRH	Human Resources for Health
HRH TWG	Human Resources for Health Technical Working Group
HRHPD	Human Resources for Health Planning and Development
HRHPD SF	Human Resources for Health Planning and Development Strategy Framework
HRIS	Human Resources Information System
HWF	Health Workforce
ICTs	Information Communication Technologies
ISCO	International Standards Classifications of Occupations
LMMU	Levy Mwanawasa Medical University
MCDMCH	Ministry of Community Development Mother and Child Health
MDD	Management Development Division
MedScholar	Medical Education Faculty Development Scholars' Programme

MoH	Ministry of Health
MoHE	Ministry of Higher Education
MOU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
NDP	National Development Plan
NDP	National Decentralization Policy
NGO	Non-Governmental Organization
NHP	National Health Policy
NHRH SP	National Human Resources for Health Strategic Plan
NHSP	National Health Strategic Plan
NSHI	National Social Health Insurance
NTOP	National Training Operational Plan
OECD	Organization of Economic Cooperation and Development
PDM	Planning Development Management
PEPFAR	United States President's Emergency Plan for Aids Relief
PMP	Performance Management Package
PRSP	Poverty Reduction Strategy Paper
PSC	Public Service Commission
PSMD	Public Services Management Division
PSRP	Public Service Reform Programme
RMNCHN	Reproductive Maternal Newborn Child Health and Nutrition
SBH	Systems for Better Health
SDGs	Sustainable Development Goals
SF	Strategy Framework
SIDA	Swedish International Development Agency
SP	Strategic Plan
STI	Sexually Transmitted Infection
STP	Specialty Training Programme
SWAp	Sector Wide Approach
TB	Tuberculosis
TI	Training Institution
UHC	Universal Health Coverage
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
USAID	United States Aid for International Development
USD	United States Dollar
UTH	University Teaching Hospital
WHO	World Health Organization
WISN	Workload Indicator of Staffing Needs
ZACOMS	Zambia Colleges of Medicine and Surgery
ZAQA	Zambia Qualifications Authority
ZDHS	Zambia Demographic Health Survey

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EXECUTIVE SUMMARY

The troublesome problem of severe shortage of human capital in the health system has persisted in Zambia for over twenty years denying millions of its people access to basic and specialist care. Equitable access to cost-effective quality health care as close to family as possible cannot be achieved if Zambia does not have competent and appropriately skilled health professionals. Zambia will need to almost double the number of its human workforce from the current 42,630 to 80,274 by training and recruiting an additional 37,644 staff by 2025 if it is to serve satisfactorily the expected population of approximately 20,574,138.

This National Human Resources for Health Strategic Plan (NHRH SP) presents an ambitious plan to attain human resources for health self-sufficiency. The theme is in line with Sustainable Development Goal (SDG) 3c which sets a target to "substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and Small Island developing States". The NHRH SP presents the vision, mission, values, six strategic priorities and objectives that will guide the achievement of the NHRH vision that underpins the proposed plan:

VISION

A healthy and productive Zambian population.

MISSION

To provide equitable access to safe, cost-effective and quality health services as close to the family as possible by safeguarding adequate numbers of the health workforce who are competent, caring, well-supported and motivated.

VALUES

The National Human Resources for Health Strategy is informed by the need to promote:

- Universal health coverage (UHC).
- Competent and compassionate care in a clean environment.
- Balance along the continuum of care including promotive, preventive, curative, rehabilitative and palliative care.

STRATEGIC PRIORITIES, OBJECTIVES AND KEY RESULT AREAS

1. **STRATEGIC PRIORITY 1**: Transform Human Resources for Health Leadership and Governance.

   Objective: ***To extend HRH planning, development and management from the perspective of personnel control and provision of HR Services to decision-making frameworks that link the HR function to strategic value.***

   Key Result Areas:

   1.1 Improved decisions that impact or are dependent on health workforce decisions.

1.2 Extended sector planning cycles & performance appraisal by incorporating HR Planning, Development and Management (PDM).

1.3 Enhanced stakeholder coordination and HRH TWG leadership in order to improve stakeholder engagement.

1.4 Improved HRH PDM performance in health system.

2. **STRATEGIC PRIORITY 2**: Operationalize Human Resources for Health Information System (HRIS).

   Objective: ***To strengthen and make functional the Human Resources Information System (HRIS) so that it can provide reliable, up-to-date health workforce information in order to better support policy- and decision- making.***

   Key Result Areas:

   2.1 Strengthened Human Resources for Health Information System registries to track health workforce stock, education, distribution, flows, demand, capacity and remuneration.

   2.2 Build a compendium of approved health workforce definitions, cadre classification and indicators for use in Zambia.

   2.3 Enhanced HRH forecasting & modelling capacity at the Ministry of Health.

   2.4 Improved communication of HRH Status in Zambia.

   2.5 Consolidated health workforce research activities to generate evidence for policy and guidelines.

3. **STRATEGIC PRIORITY 3:** Transform health professions' education and training by creating a nationwide network of academic health complexes (AHCs).

   Objective: ***To establish a nationwide network of Academic Health Complexes spanning national, regional (provincial) and district levels.***

   Key Result Areas:

   3.1 Improved national coordination and leadership of the health workforce development agenda.

   3.2 Improved provincial coordination and leadership of the health workforce development agenda.

   3.3 Strengthened coordination and leadership for AHCs.

   3.4 Improved Training Infrastructure for AHCs to include library, skills lab, classroom blocks, 150-capacity lecture theatre, and student bed capacity.

   3.5 Integrated career paths in clinical and academic medicine to encourage teaching, learning and scholarship as an integral function of the health professions and expanding the faculty.

   3.6 Strengthened in-service system in order to improve work performance.

4. **STRATEGIC PRIORITY 4:** Establish the Specialty Training Programme (STP).

   Objective: ***To establish the specialty training programme (STP) using competence-based professional training to complement university-based postgraduate training.***

   Key Result Areas:

   4.1 Improved equitable distribution of specialists throughout the country.

   4.2 Enhanced professional supervision in specialty training.

   4.3 Improved capacity to manage specialized treatment locally in order to increase accessibility to specialist care and reduce expenditure for treatment abroad.

   4.4 Sustained quality of specialty training programmes.

5. **STRATEGIC PRIORITY 5**: Accelerate human resources for health (HRH) outputs.

   Objective: ***To train 37,644 health professionals and 759 specialists in 7years.***

   Key Result Areas:

   5.1 Increased HRH output capacity.

   5.2 Increased number of specialists.

6. **STRATEGIC PRIORITY 6:** Harness information communication technologies in health professions' education and training.

   Objective: ***To scale up development and access to reliable and cost-effective e-learning for pre-service, in-service and continued professional development programmes.***

   Key Result Areas:

   6.1 Enhanced capacity to harness benefits of cost-effective information communication technologies for pre-service, in-service and continued professional development (CPD) education and training programmes in order to scale up access for students in health professions.

   6.2 Improved quality frameworks for ICT- based health professionals' education and training programmes.

   6.3 Strengthened capacity to monitor and evaluate ICT-based health professionals' education and training programmes.

7. **STRATEGIC PRIORITY 7:** Scale up health workforce recruitment, equitable distribution and retention.

   Objective: ***Create, recruit, deploy equitably and retain additional 37,644 health professions jobs in approved and funded positions in 7 years.***

   Key Result Areas:

   7.1 Enhanced recruitment capacity to create additional full-time jobs in health.

   7.2 Improved deployment planning in order to promote universal health coverage.

7.3 Strengthened retention and motivation systems.

7.4 Improved work environments.

7.5 Enhanced mobilization of resources for HRH Strategies.

The Ministry of Health, through the Departments of Training and Development and Human Resources Management and Administration will take the lead in implementing the NHRH SP (2018 – 2024) and coordinating the active involvement of other ministries of government, development partners, civil society, training institutions, and other HRH stakeholders. The Monitoring and Evaluation framework will guide data collection, indicator tracking at various levels of the results chain.

CHAPTER 1: BACKGROUND AND INTRODUCTION

RATIONALE OF THE PLAN

Health workforce (HWF) planning is complex and challenging. The difficult task of developing this National Human Resources for Health Strategic Plan (NHRH SP) was lightened by building consensus through participatory consultations with the Human Resources for Health Technical Working Group, Policy Meetings with development partners and civil society, and strategy workshops at Cluster Strategy Workshops attended by participants from district, provincial and national level. The final draft was validated and approved by the Ministry of Health.

Financing the health sector is currently topical in Zambia with the enactment of the National Health Insurance Act (2018). Although, the health sector in Zambia has recorded increases in the absolute funding of its budget over the years it continues to be below the 15% target set by the Abuja Declaration. The continued budgetary underfunding of the public health sector limits the sector's capacity to meet public demands. The Ministry of Health is optimistic that additional financing to the health sector through the National Health Insurance scheme (NHI) will provide additional resources to the health system for service delivery, infrastructure and equipment, human resources, medicines and vaccines, information systems and leadership and governance. The proportion of financing from the NHI scheme to this NHRH SP is not yet clear.

Among the pillars of the health system, the HWF is the fulcrum of the health system because all the other pillars are dependent on human resources to function effectively and efficiently. The HWF determines the quality, character and cost of the healthcare service delivery. Accordingly, Zambia needs to develop an ambitious NHRH SP that can lead to self-sufficiency in human resources for health. The plan requires to be very ambitious so that it is transformative. The NHRH SP must embody:

1. The accurate number of HRH, deployed where they are needed, at the right time;
2. The appropriate skills and skill mix and doing the right work;
3. The right cost-effective balance.

The achievement of these ideals depends on an elaborate plan that identifies the future needs for and supply of the HWF, timely implementation of the action plans thereof, and matching the pipeline outputs to needs of the whole health sector. Other considerations include the types of services to be provided, ensuring productivity of the future HWF and accurate projection of the required funding.

The purpose of this NHRH SP is threefold:

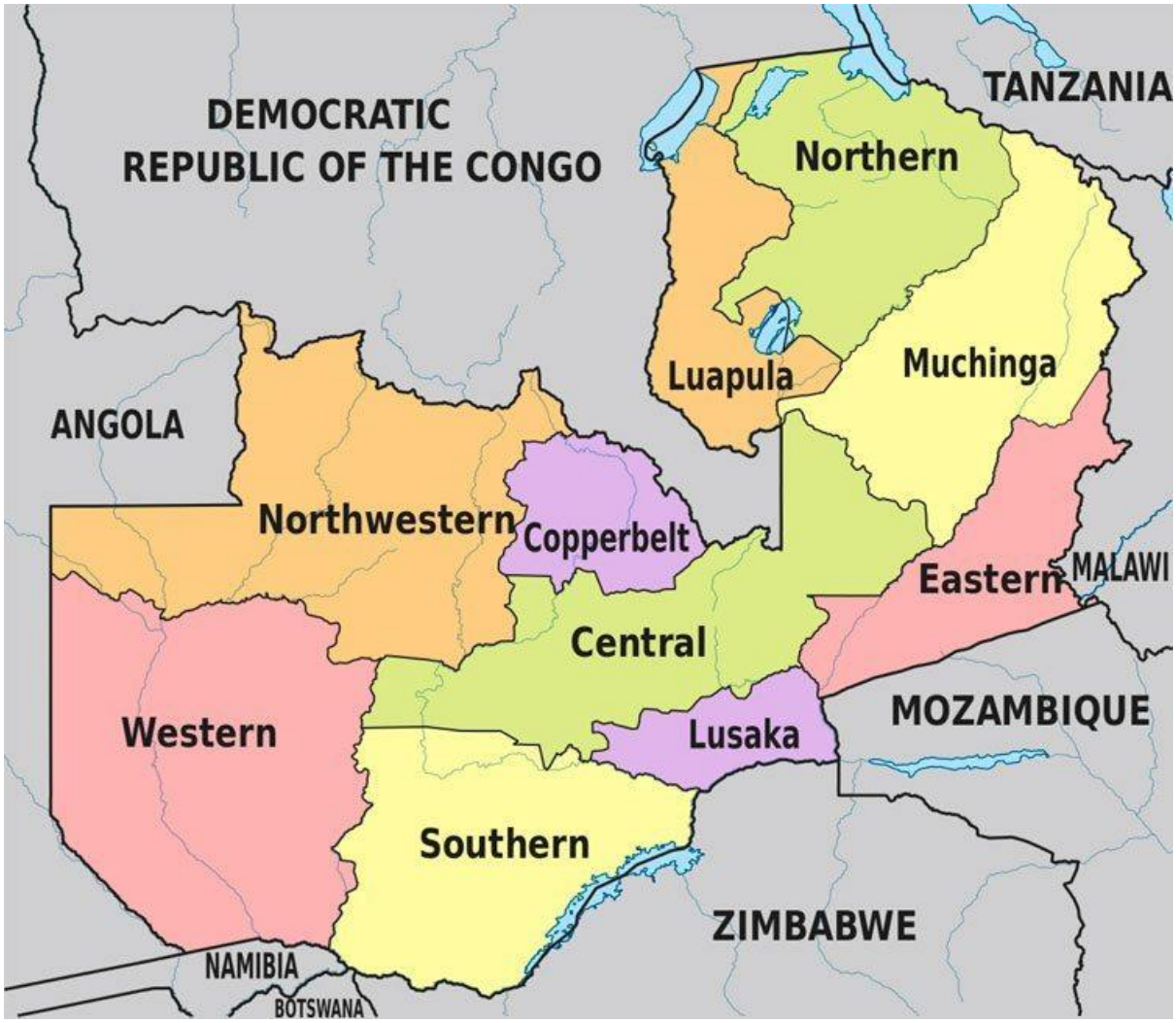
1. To specify the strategic priorities for HWF growth and development.
2. To outline HWF objectives for the next seven years in order to provide a framework for short- and medium-term plan action plans.
3. To coalesce the efforts of Ministry of Health, other relevant ministries, development partners, training institutions, civil society, and other stakeholders into a collective, concerted and cooperative effort regarding the HWF agenda for the next seven years.

The NHRH SP is built from current and historical information about the HWF in Zambia, projections of future health care needs, the types of services to be provided, the means through which they will be provided, and the prevailing policy directions.

COUNTRY PROFILE

Geographical Context

Zambia is a land-linked country of 752,612 square kilometers area between the latitudes 10^0 and 18^0 South and 22^0 and 33^0 East. She is linked to Congo DR to the north and north west, Tanzania to the north east, Malawi to the east, Mozambique to the south east, Zimbabwe to the south, Botswana and Namibia to the south west and Angola to the West.



Source: http://www.zccm-ih.com.zm/about-zambia/

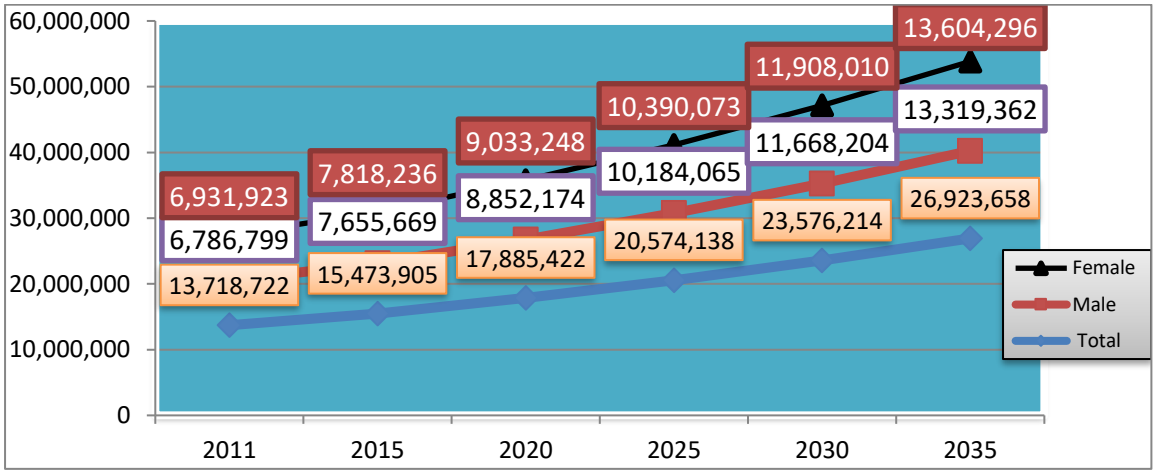
Demographic Context

According to the Central Statistical Office (2013), the population of Zambia is estimated at 16,500,000 which consists of 66% under the age of 24 years, 68% under 35 years of age and 51% to 49% female to male ratio. Only 29% are in the economically productive bracket of 25

– 54 years giving a total dependency ratio of 95.4%. The urbanization rate in Zambia is 40%. The population growth rate stands at 3% influenced by a birth rate of 41.8 births/1,000 population and a death rate of 12.4 deaths/1,000 population. Life expectancy at birth was estimated at 50.8 years for males and 54.1 years for females. The total fertility rate was 5.67 children born per woman and contraceptive prevalence rate of 49%. It is assumed that the fertility rate will note change significantly but the mortality due to HIV and AIDS infections will reduce dramatically.

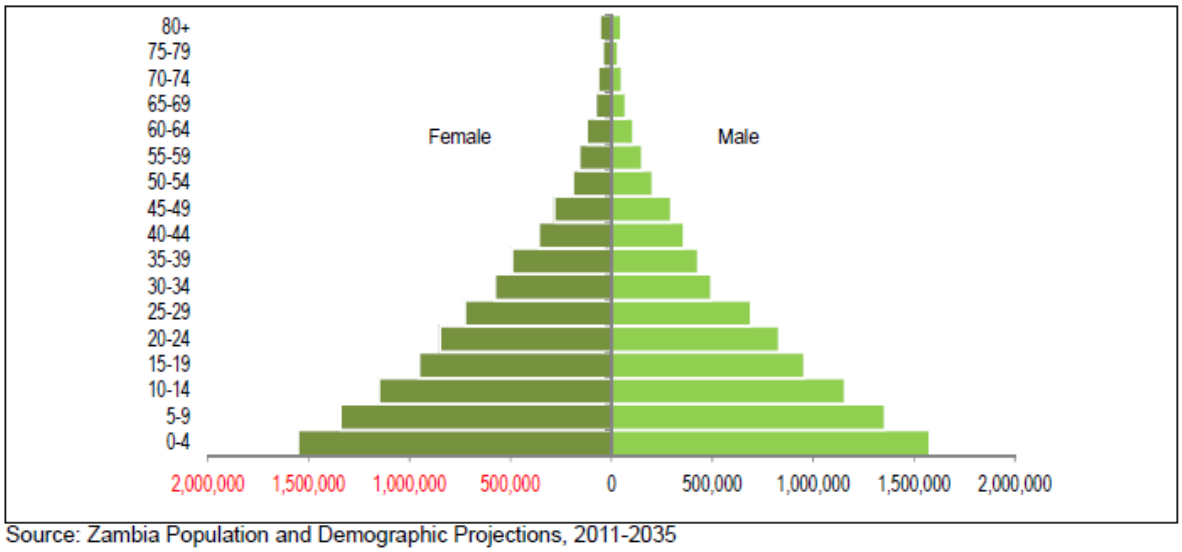
Table 1 provides a breakdown of the population projected future population to 2035 (ZDHS, 2013).

Table 1: Trends of Zambia's Population, 1963 to 2035



Source Zambia Demographic Health Survey (2013)

It is expected that with time, the 66% dependent children will grow into the productive age group and that this will result into growth in the economy. This resulting change in the age structure of the country's population may thus yield the demographic dividend, which typically is brought on by a decline in fertility and mortality rates, but for Zambia may result from the young dependent population transition into the productive age bracket.



Source: Zambia Population and Demographic Projections, 2011-2035

Figure 1: Age and Sex Structure of Population (Medium Variant), Zambia, 2020.

The implications of these assumptions are multiple:

1. The demand for acute services will increase on account of population growth and an increasing expectation for health care.
2. There will be an increased demand for improved maternity services and child care.
3. The increasing urbanization trend will require a commensurate increase in urban service facilities to carter for the growing urban populations.
4. Health promotion and disease prevention will need to be scaled up to prevent a surge on demand for curative, rehabilitative and palliative services.
5. The dual burden of both communicable and non-communicable diseases will continue to plague Zambia requiring both to be contended with.
6. The number of public and private sector hospital beds will have to be increased and match geographical distribution and increased population.

Socioeconomic Context

The Mission Statement of the Zambia National Health Strategic Plan 2017 – 2021 is "To provide equitable access to cost effective, quality health services as close to the family as possible." The fiscal implications of this mission and what it would take to achieve it are contingent on the overall socioeconomic context and the funding sources for the health sector.

According to statistics from the World Bank, Zambia witnessed rapid economic growth between 2000 and 2014, with an annual average growth of 7.3%. In the same period, the GDP per Capita went up by 4.3%. Zambia's total GDP was USD $ 20.9 billion whereas the GDP per Capita forecast for 2017 was USD $1,213.4 and inflation stood at 9.1%. However, unemployment rate was estimated at 7.8% which was above the global average of 6%, while the ratio of the population living below the poverty line in rural areas was estimated at 76.6% and in urban areas at 23.4%. Zambia is now classified a lower middle-income Country. In the health sector the average net monthly salary stood at USD $ 1,310 considered one of the highest paying on the African continent. The economic status classification and the cost of labour in the health sector present a new set of challenges for resource mobilization and labour force expansion.

Human resources for health have a 22.6% (USD $3.2 billion) allocation of the total NHSP costing (USD $ 14.3 billion). The health sector was allocated 9% (USD $ 644 million) of the national budget of USD 7.1 billion for 2018. The Abuja declaration recommends 15%. In Zambia, the Ministry of Health has included the introduction of a National Health Insurance (NHI) scheme as a high priority in the NHSP and it is expected that the enactment of the Act will provide additional funding source for the health sector. On the human capital front, Zambia's spending on education at 1.1% of GDP (2008) is low compared to other sub-Saharan countries. The Organization of Economic Cooperation for Development (OECD) recommends 41% expenditure on GDP per Capita on tertiary education. Noticeably, Zambia has few schools for training doctors, nurses, and other health care workers.

Given that Zambia's physician density stands at 0.16 physicians/1,000 population (2012) and hospital bed density at 2 beds/1,000 population (2010) the socioeconomic backdrop provides important context for the NHRH SP. Therefore, the assumptions inherent in proposing radical changes regarding the HWF include the following:

1. Revenue generation from the National Social Health Insurance will significantly increase health workforce financing.

2. The national budget allocation to health will continue to increase toward the Abuja Declaration target of 15%.
3. Increased development partners' contribution towards HWF will continue.
4. Additional public and private sector financing towards the HWF will be supported by all the levels of government, development partners and others stakeholders and, as such, financed and implemented.
5. Zambia's economic performance, over the tenure of the NHSP (2018 – 2024) will be sustained and improved.

Epidemiological Context

Malaria, HIV and AIDS, sexually transmitted infections (STI's), tuberculosis, mental health, cancer, trauma, non-communicable diseases (diabetes, hypertension and cardiovascular diseases), neglected tropical diseases (schistosomiasis, trachoma, lymphatic filiariasis), nutritional stunting and obesity, collectively are Zambia's heaviest burden of the healthcare service delivery.

The ZDHS (2013/14) reported the HIV prevalence as 14% in 2007 and 13.3% in 2014. In 2013/14 Maternal mortality was estimated at 398 per 100,000 live births having declined from 649 per 100,000 live births in 1996, to 591 deaths per 100,000 live births in 2007. The infant mortality, 2013/14 was reported at 45 per 1,000 live births having similarly declined from 109, 95, 70 1996, 2001-2, 2007 respectively. The under-five mortality rate of children dropped from 197 deaths per 1,000 live births in 1996 to 75 per 1,000 live births in 2013-2014.

Based on the Disability-Adjusted Life Year (DALY) the highest disease burden 30% was from Reproductive Maternal New Born Child Health & Nutrition (RMNCHN), followed by HIV and TB at 23%, and the combined disease burden of Malaria, neglected tropical diseases, and cardiovascular disease burden at 12.2%. Table 2 below, shows the comparative analysis of the ranking of disease burden between 2010 and 2016.

Table 2: Comparison Analysis of Ranking of Conditions Using Disability-Adjusted Life Year

	2010	2016
1	HIV/AIDS & Tuberculosis	HIV/AIDS & Tuberculosis
2	Diarrhea/Lower Respiratory Infections/Other	Diarrhea/Lower Respiratory Infections/Other
3	Neonatal Disorders	Neonatal Disorders
4	Nutritional Deficiencies	Neglected Tropical Diseases & Malaria
5	Cardiovascular Diseases	Cardiovascular Diseases
6	Neglected Tropical Diseases & Malaria	Nutritional Deficiencies

Source: http://vizhub.healthdata.org/gbd-compare/

Health System Context

Zambia is divided into 10 administrative provinces and 105 districts. Health management is done through provincial health offices (10), district health offices (105) and statutory bodies. The hospital system is categorized into 3rd, 2nd, and 1st level hospitals which are supported by health centres and health posts to link to the community. Zambia has eight third-level hospitals, 34 second-level hospitals, 99 first-level hospitals, 1,839 health centres, and 953 health posts.

The third level hospitals are owned by the Government, while of the second-level 26 are Government owned, and eight by Churches Health Association of Zambia (CHAZ)

All the structures from the central level, provincial level, hospitals, statutory bodies, districts, training schools have their specified annual action plans which they independently implement. Strategic plans and operational plans are financed and implemented through the processes and systems of the Government's Medium-Term Expenditure Framework (MTEF) and the annual budgets and plans.

In 2011, the Ministry of Health embarked on a number infrastructure development programs aimed at improving service delivery as well as increasing access to cost effective health care for the Zambian people. Major infrastructure developments included the upgrading of hospitals, rehabilitation of facilities, construction of health posts and district hospitals. With the various infrastructure developments being undertaken, there is need for a corresponding increase in the health workforce in order to contribute to transforming Zambia into a nation of healthy and productive people.

As of July 2017, Zambia's Physicians, Nurses and Midwives per 1,000 population ratio was 1.2 as opposed to the prescribed World Health Organization (WHO) standard of 2.3 per 1,000 population. Therefore, with the current Physicians, Nurses and Midwives per 1,000 population ratio, it is difficult for the sector to significantly contribute to the Human Development Outcomes outlined in the 7th National Development Plan (7th NDP) and the National Health Strategic Plan (2017-2021).

Additionally, the Ministry of Health also underwent organizational realignment. The primary health care function was transferred to the Ministry of Community Development and Social Welfare and the Ministry was renamed Ministry of Community Development, Mother and Child Health (MCDMCH). Consequently, structures that were performing these functions which included the District Health Office, District Hospitals, Health Centres and Health Posts were transferred to MCDMCH. In addition, the Mother and Child Health Unit in the Department of Public Health at Ministry of Health Headquarters was transferred to the MCDMCH and was transformed into a Department. However, the decision was reversed in 2015 and the primary health care function was reverted to the Ministry of Health with all the associated structures. Therefore, in order to ensure proper integration of the Mother and Child Health functions into the Ministry of Health further realignment was necessitated.

The ensuing reorganization of the Ministry in 2016 resulted in a lean structure responsible for policy, standards, monitoring and evaluation; and strengthening the service delivery at the health facility level. In addition, Government directed the reorganization of the University Teaching Hospital (UTH) into five (5) specialized hospitals namely; Adult Hospital, Women and New-born Hospital, Cancer Diseases Hospital, Children's Hospital and Eye Hospital. The UTHs were also to assume the role of coordinating the provision of clinical services at the national level.

The review of the Ministry of Health structure was aimed at achieving the following:

- Linking Government policy to an appropriate and responsive organizational structure;
- Maintaining a lean number of specialized staff at the center by redeploying most staff back to the service delivery points;
- Removing duplication of functions among departments and Units at the Ministry of Health headquarters;

- Enhancing inter-sectoral collaboration in addressing the social determinants of health.
- Provision of high quality tertiary health services;
- Increasing the number of internship sites for medical doctors to all provincial centers in the country;
- Reducing administrative and bureaucratic bottlenecks at the University Teaching Hospital by separating it into five (5) hospitals; and
- Enhancing the coordination of medical and other health related training in the Country.

The Ministry of Health, was in February 2018 finally, restructured as follows:

A) The Ministry of Health has two Permanent Secretaries, one responsible for health services and the other responsible for administrative services.
B) The Permanent Secretary – Health Services, oversees the Department of Clinical Care & Diagnostic Services, Department of Public Health, Department of Health Promotions, Environment & Social Determinants, National Malaria Control Centre, Department of Nursing Services, Department of Nuclear Medicine and Research and Department of Global Health.
C) The Permanent Secretary – Administration oversees the Department of Health Policy and Planning, Department of Human Resources Management and Administration, Department of Training & Development, Department of Physical Infrastructure and Medical Technologies, and Department of Monitoring and Evaluation. The following Units will also report to the Permanent Secretary responsible for administration: Accounts, Internal Audit, Procurement & Supplies, Health Care Financing, Legal and Information Communication Technology.
D) The Provincial Health Directors report to the Permanent Secretary – Technical Services on technical issues and to the Permanent Secretary – Administration on administrative issues.
E) The Chest Diseases Laboratory, the Food and Drugs Laboratory, Dental Training School, Mwachisompola Health Demonstration Zone, public health professions' training institutions assigned to the Ministry of Health are units directly linked to the Ministry of Health headquarters and operate in collaboration with the relevant line departments.
F) The Statutory bodies assigned to the Ministry report directly to the Minister responsible for Health.

The Ministry of Health headquarters is responsible for policy making, setting and monitoring of performance standards and financial mobilization amongst other things. At the Province, the role of the Ministry of Health is to coordinate, provide technical support and quality assurance. The Provincial office provide the link between the Centre and the service delivery points (i.e. 3rd and 2nd Level hospitals, and the District Health Offices). At the District, the role of Ministry of Health is to supervise 1st level hospitals, rural and urban centres, health posts and coordination of action plans, progress reports and budgets. Community health activities are coordinated at this level.

The reorganization of the Ministry of Health resulted in an increase of positions in the approved establishment from **102,804** positions to **126,288** positions. Consequently, the annual cost implication for implementing the new structure increased from a total of **K 7,086,617,686.70** to **K 8,988,513,043.49.** The resultant restructuring additional costs to Government was **K 1,901,895,356.70** per annum.

It is envisaged that the reorganization of the Ministry of Health structure will realign the Departments and Units at the Ministry of Health headquarters to make it more responsive to the current Government policies and improving the delivery of health services to the Zambian people.

In summary, as per gazette notice No. 836 of 2016, the Ministry of Health is responsible for the following portfolio functions:

- Curative services
- Drugs
- Food and Nutrition Policy
- Health Care
- Health Information System
- Health personnel training
- Health Policy
- Health Services
- Laboratory and research services
- Mental Health policy

The Ministry is also responsible for the following institutions:

- Chest Diseases Laboratory
- Food and Drugs Board
- General Nursing Council of Zambia
- Health Professions Council of Zambia
- Health Research Authority
- Malaria Control Centre
- Medical Stores Limited
- Mwachisompola Health Demonstration Zone Institute
- National Food and Nutrition Commission
- National HIV/AIDS/STI/TB Council
- National Public Health Institute
- Radiation Protection Authority
- Regional Centre for Disease Control
- Tropical Disease Research Centre
- Occupational Health and Safety Institute
- Zambia Flying Doctor Service
- Zambia Medicines Regulatory Authority
- Zambia National Blood Transfusion Services
- Zambia Red Cross Society

Policy and Legislation Context

Zambia is a signatory to several international protocols and agreements. Of note, in April 2001, Zambia as a signatory, committed to the Abuja Declaration to set a target of allocating at least 15% of their annual budget to improve the health sector; the United Nations General Assembly of 2015 ushered in the Sustainable Development Goals to be achieved between 2016 and 2030. Zambia also signed the 2016 World Health Assembly resolutions that adopted the Global Strategy for Human Resources: Workforce 2030. Additional complementary endorsements that

support Health Systems Strengthening include the Ouagadougou Declaration on Primary Health Care and Health Systems in Africa (2009) that focuses on nine major priority areas, namely:

- Leadership and Governance for Health;
- Health Service Delivery;
- Human Resources for Health;
- Health Financing;
- Health Information Systems;
- Health Technologies;
- Community Ownership and Participation;
- Partnerships for Health Development; and
- Research for Health.

Zambia is committed to strengthening the HWF though comprehensive evidence-based HWF planning and monitoring; building the capacity of health professions' training institutions to scale up their outputs and quality; and efforts to strengthen HRH management and leadership capacity.

The NHRH SP further recognizes and conforms with the following overarching national policy document:

- The Constitution of the Republic of Zambia
- The Vision 2030 Plan
- The 7th National Development Plan
- The National Health Strategic Plan (2017 -2021)
- The Ministry of Health Restructuring Report by the Management Development Division of Cabinet Office (2018).

CHAPTER 2: HEALTH WORKFORCE SITUATION

HEALTH WORKFORCE PLANNING

Capacity for HRH Planning

Zambia's efforts to ensure an adequate HWF may have been impeded by multiple factors: ineffective HRH leadership and governance, inadequate institutional capacity, unimplemented strategies, underinvestment human capital development, low HWF outputs, maldistribution of health workers, modest success in implementation of existing plans, lack of incentives, uncoordinated partnerships, and weak policy dialogue. Furthermore, slow economic growth may have worsened Government's inability to pay and resulted in unemployment of available health professionals. The aforementioned backdrop has had dire impact on the Ministry's capacity for realistic and effective HRH Planning.

In general HRH planning is highly centralized and donor support dependent. The ownership, responsibility and accountability for implementing the HRH SP and other plans is minimal at provincial, district and health facility levels. Furthermore, the reporting lines, supportive supervision and operative linkages of the HRH stakeholder institutions to the MOH HQ can be ill-defined.

HRH Plans

Zambia's last NHRH SP ran from 2011 – 2015 but extended by a year to (2016) and the one that preceded it from 2006 – 2010. Independent consultants observed that the 2006 – 2010 NHRH SP had been implemented only to limited extent and did not help avert the HRH crisis the country was facing. Notably, the NHRH SP (2006 – 2010) had been funded only up to about 17% and as such the HRH outputs over the period were dismal. Additionally, the restructuring of the Ministry and the donor withdrawal of funding in 2009 severely hindered any meaningful progress.

The mid-term review of the implementation and performance of the Revised National Health Strategic Plan (2011- 2016) noted the following as HRH achievements:

1. Development and implementation of the National Human Resources Health Strategic Plan 2011 – 2016 (NHRH-SP).
2. Development and implementation of the National Training Operational Plan 2013 – 2016 (NTOP);
3. Increase in the total number of health workers (administrative support staff inclusive) from 29,111 in 2010 to 36,636 in 2013, or by 28%;
4. Increase in the total number of clinical staff, from 15,893 in 2010 to 20,416 in 2013, or by 28%;
5. Increase in the number of specialist doctors by 8%, from 359 to 387;
6. Increase in the total number of nurses by 24% from 10,370 in 2010 to 12,948 in 2013;

The enrollment capacity and graduation outputs were increased through renovations, expansions of existing infrastructure, constructions of new training infrastructure, and

increased participation of the private sector in training health professionals. During the same period of the NHRH SP, the Annual Performance Appraisal System (APAS) was rolled out to all health facilities. Additionally, the Community Health Strategic plan was implemented by opening the Community Health Assistants (CHAs) training schools in Ndola and Mwachisompola.

The main challenges identified were the following:

1. The large unmet staffing gap – in 2013, the total staffing gap stood at 23,362 or 39% of the approved staff establishment;
2. Inequities in the geographical distribution of core health workers – in 2013, the North-Western Province had the highest number of clinical health workers per 10,000 population (13.2 per 10,000), followed by Lusaka at 13.1, while the lowest was Northern Province, at 5.4;
3. High staff attrition rate, between 4.5 and 5.4% of the total number of staff in-post;
4. Interruptions caused by the 2012 restructuring of the health sector – relocation of Primary Health Care staff to MCDMCH, time spent on settling down, uncertainties, internal reorganizations and coordination challenges; and lack of a change management process to support the restructuring process.

The mid-term review recommended the following interventions:

1. Strengthen HRH planning
2. Accelerate the recruitment of HRH, to meet the staff establishments
3. Improve equity in the distribution of HRH throughout the country and the causes of imbalances in distribution.
4. Improve staff performance, to achieve high productivity
5. Increase training outputs and skills-mix in the country, to improve the supply of qualified health workers.

While certain progress has been made over the last two strategic plans, the HRH crisis remained unresolved. The HRH Plans, appear not to have directly influenced annual budgets nor directly guided HRH developments even if priority areas and annual training plans were submitted from the provinces. The absorption rate of health professionals into the public sector, similarly, was not informed by HRH plans but more influenced by the fiscal capacity of government. HRH Plans ought to be management and workforce development tools used at district, provincial and national planning cycles and for controlling strategic value of the daily operations. The problems may have been compounded by poor data on HRH and the peripheral role of HR functions when making decisions about attaining global and NHSP goals.

Information for Planning & the HRH Information System

A functional Human Resources Information System (HRIS) has been a priority in every NHRH SP since 2006 but remains unfinished after expiry of all previous NHRH SPs. Since 2010, development partners and other stakeholders have been helping the Health Professions Council of Zambia and the General Nursing Council to index students and track registered health professionals' employment status, type of cadre and geographical location. Significantly, the two systems and the HRIS system at the Ministry of Health are not integrated and operate independently. The Ministry's information on approved establishment posts, filled posts, and vacant posts, place of work, title, nationality, and specialist training status is restricted to the public sector and is not routinely updated. Requests for information summaries are not resolved in real time but prepared on ad hoc basis. The accuracy and timeliness of the information remains a source of frustration. Available information is not adequate to inform comprehensive

planning and management decisions across the four core dimensions of functionality of an effective and efficient HRH database:

- Tracking stock and mix of HRH.
- Tracking output of health professions education institutions.
- Regularly updating databases
- Adequate human resources to maintain databases.

However, the necessity for accurate, timely and effective HWF data to inform policies on human capital development is well recognized.

The above mentioned notwithstanding, the Ministry of Health's is rolling out a HRIS as a software solution for managing information to use in decision making. The HRIS links all human resource data from the time professionals enter pre-service training to when they leave the workforce. The system consists of electronic databases for storing the information, software for entering and updating data and reporting and analysis tools. The system operates different types of modules as follows:

- **Manage people:** This module enables the user to add a new employee or applicant record to the system, and search for and update records that have been entered into the system. It can also, complete job applications for open positions, review completed applications and assign a position to the successful applicant.
- **Search People:** This module enables the user to locate any employee or position record in the system to review, print or update.
- **View Reports**: This module enables the user to view Reports, enable analysis of human resource data in various ways. Customize, display and print staff lists, statistical charts and other standard reports.

The system relies heavily on paper forms, 'island' electronic Excel or Access databases, and has several weaknesses, notably, the information is fragmented, incomplete, out of date and not regularly shared.

Stocks and Profiles of HRH

The government of Zambia has continued to demonstrate its strong commitment to addressing the country's HWF gaps through expanding the staff establishment by approving new structures and providing funding for net recruitments on an annual basis. The health worker's establishment grew at an average of 5% during the period 2011 to 2016, and, for example, the number of nurses in health centres grew from 12,348 in 2012 to 14,807 in 2016 representing a 4% average yearly increase. Nonetheless HWF deficits remained high with regard the target staffing levels set in the Seventh National Development Plan 2017-2021, specifically concerning the goal of having 9 nurses per 10,000, population. Zambia has about 1.2 physicians, nurses, and midwives per 1000 population while the World Health Organization (WHO) minimum acceptable density threshold is 2.3 per 1000 population. The estimated shortage of doctors, nurses and midwives in Zambia is about 14,960. However, with the projected population growth the deficits more than double disproportionately to, 25,849 in 2020, and 46,549 in 2035, at the current rate of HRH production.

While the WHO defines the HWF as "all people engaged in actions whose primary intent is to enhance health" the Health worker density estimates focus on the more traditionally known

doctors, nurses, and midwives and excludes other important categories of the health workers such as pharmacists, laboratory technicians and scientists, radiographers and physiotherapists among others. The health worker density metric, therefore, may lead to underestimating and underfinancing programmes aimed at solving the crisis of health workforce in health systems. The combined health workforce density (all health workers) recommended is 4.1 but Zambia's rate is at 2.1.

The International Standard Classification of Occupations (ISCO, 2008) offers a more practical definition of health professionals as *"those who study, advise on or provide preventive, curative, rehabilitative and promotional health services based on an extensive body of theoretical and factual knowledge in diagnosis and treatment of disease and other health problems acquired over 3 or more years in higher education."* In all, health workers were categorized into five broad groupings:

- Health professionals.
- Health associate professionals.
- Personal care workers in health services.
- Health management and support personnel.
- Other service providers not elsewhere classified.

The ISCO Table 4 below lists the professionals in three selected categories.

Table 4. Selected Human Resources for Health Categories by the International Standard for Classification of Occupations (2009)

Health Professionals	Health Associate Professionals	Management & Support Staff
• Generalist medical practitioners • Specialist medical practitioners • Nursing professionals • Midwifery professionals • Paramedical practitioners • Dentists • Pharmacists • Environmental & occupational & hygiene professionals • Physiotherapists • Dieticians & nutritionists • Audiologists & speech therapists • Optometrists & ophthalmic opticians	• Medical imaging & therapeutic equipment technicians • Medical & pathology laboratory technicians • Pharmaceutical technicians & assistants • Medical & dental prosthetic technicians • Nursing associate professionals • Midwifery associate professionals • Dental assistants & therapists • Medical records & health information technicians • Community health workers • Dispensing opticians • Physiotherapy technicians & assistants • Medical assistants • Environmental & occupational health inspectors and associates • Ambulance workers	• Health service managers • Health economists • Health policy lawyers • Biomedical engineers • Medical physicists • Clinical psychologists • Social workers • Medical secretaries • Ambulance drivers • Administrators

Zambia's HRH profile of filled establishment is summarized in Table 3 below.

Table 3. HRH Filled Establishment

	2011			2016		
HRH Cadre	Approved	Actual	Gap %	Approved	Actual	Gap %
Doctor	2,939	1,076	63.4	3,119	1,514	51
Clinical Officer	4,813	1,509	68.6	4,883	1,814	63
Midwife	6,106	2,753	54.9	6,322	3,141	50
Nurse	17,497	7,996	54.3	18,484	11,666	37
Pharmacy	1,108	777	29.9	1,219	1,159	5
Radiography	483	276	42.9	542	419	23
Lab	2,023	713	64.8	2,110	921	56
Environmental	2,063	1,367	33.7	2,319	1,796	23
Physiotherapy	421	297	29.5	448	432	4
Nutrition	330	170	48.5	350	202	42
Dental	865	278	67.9	908	312	66
Admin	6,115	1,683	72.5	22,353	19,254	14
Total	**44,763**	**18,985**	**38**	**63,057**	**42,630**	**32**

Source: Ministry of Health (2016)

Distribution of the Health Workforce

Presently, Zambia's health workers' distribution shows geographical maldistribution skewed toward urban areas. A review of 2016 showed the following urban to rural ratios:

- Doctors -418:335
- Clinical officers - 966:805
- Midwives - 1,687:1,513
- Nurses - 6,214:5,024.

The human resource gap is greatest in rural areas which have 1.12 Health Care Workers (HCWs) per 1,000 people compared to 1.87 HCWs per 1,000 people in urban areas. Notably, the majority of medical specialists, general physicians, dentists, pharmacists, nurses and midwives practice work in urban areas. Rural facilities were severely understaffed and, in some instances, were managed by unqualified staff.

Need, Availability and Projections

Using the approved establishment as a measurement for HWF requirements the MoH had a total deficit of 38% in 2011 and 32% in 2016 for all health cadres. Analysis of vacancies across cadres showed noticeable gaps in core health cadres. 1n 2016, medical doctors had a vacancy of 51%, midwives 50%, nurses 37% while laboratory staff had the highest deficit of 56% but pharmacy and physiotherapy had the lowest at 5% and 4% respectively. The vacancy rates for level-3 facilities (central hospitals, national level) varied from 5% in Lusaka to 38% in Copperbelt Province; for level-2 facilities (provincial level hospitals), from 30% for Western to 70% for Copperbelt Province; for level-1 facilities (district level hospitals), from 54% for the Southern to 80% for the Western provinces; for rural health centres, vacancies varied from

15% to 63% (for Lusaka and Luapula provinces respectively); for urban health centres the observed vacancy rates varied from 13% for the Lusaka to 96% for the Western provinces. Unfortunately, the staff establishment does not reconcile the need for health workforce requirements based on demographic growth and change; disease burden; staffing norms at existing and presently being constructed health facilities. Furthermore, quality standards, public demand and expectation, policy options between comprehensive or basic healthcare package approaches pose specific HWF demands.

In the HRH fraternity several methods are used to estimate HWF requirements. Notably, needs-based and utilization-based methods are the commonest. Recently service target-based and adjusted service target-based have been applied commonly. The aforementioned methods at some point require an estimate of full-time equivalent (FTE) to estimate the numbers required for particular service loads. The HWF to population method does not consider the FTE.

Table 5: HR Staffing Projection Planning Methods Descriptions and Key Steps.

HR Planning Method	Description and Key Steps
Needs-based	Estimates future requirements based on estimated health deficits of the population.
	Converts projected service needs to persons requirements using productivity norms or professional judgement
Utilization-based (or demand based)	Estimates future requirements based on current level of service utilization in relation to future projections of demographic profile.
Service Target-based	Sets targets for the production and delivery of specific outcome-oriented health services.
	Converts these targets into HRH requirements by means of staffing and productivity standards.
Adjusted Service Target Approach	Identifies service needs based on epidemiological and demographic profile, and programmatic targets.
	Identifies tasks and skills required to deliver the evidence-based strategic interventions for the specific programmes based on functional job analysis
	Estimate time requirements for each intervention, based on time-motion studies or expert opinion.
	Translates the time requirements into adjusted full-time equivalents, based on productivity.
Health Workforce to Population Ratio	Specifies desired health worker-to-population ratio.

The MoH will need to build its internal capacity to utilize any of the above-mentioned approaches in order to benefit from the value of any of them. Currently, in-house capacity is not available.

HEALTH WORKFORCE DEVELOPMENT

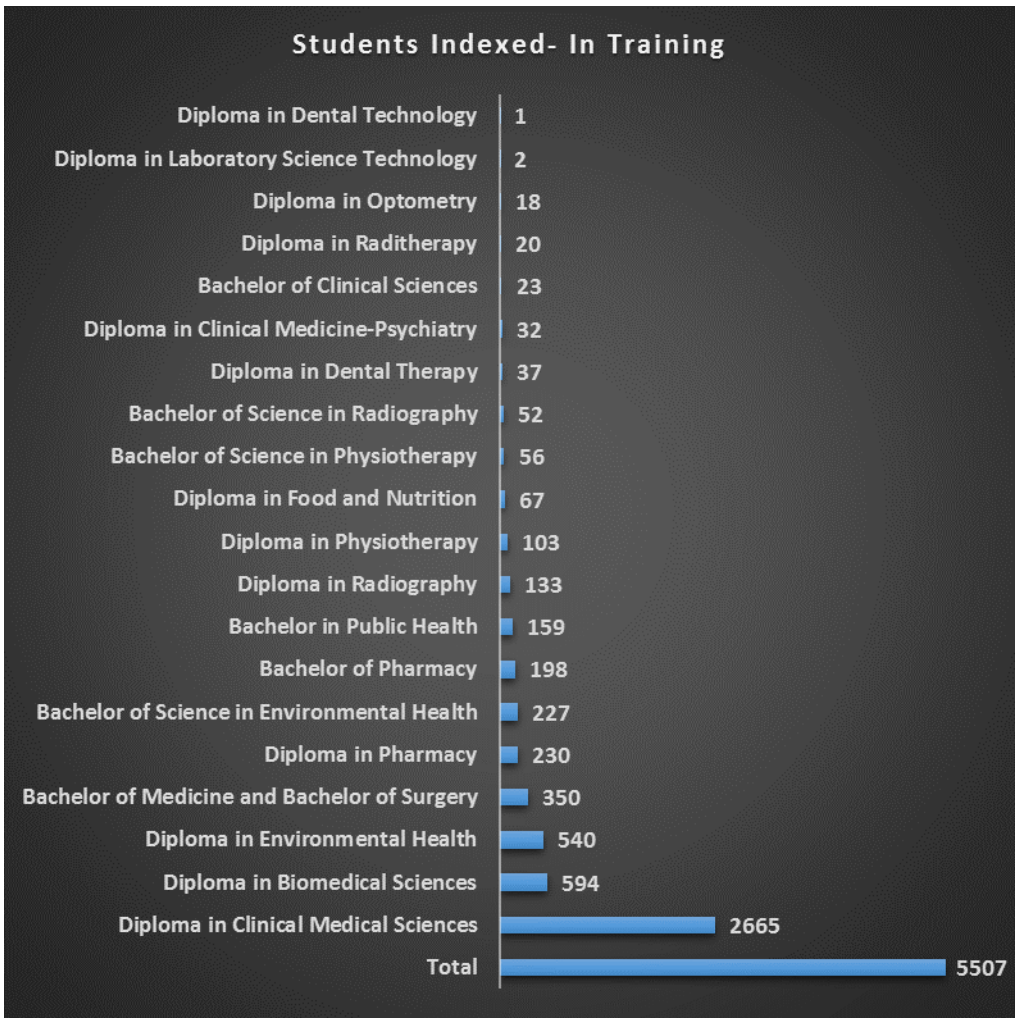
Pre-Service Pipeline

The MoH, nationwide, supports and manages 25 nursing-oriented training institutions, two (2) biomedical training institutions, two (2) community health assistant training colleges, one (1)

dental training school, and one (1) multi-professional training college (Chainama College of Health Sciences). The management of the training institutions is delegated to the education officer or principal nurse tutor based at the institution and, in turn, supervised by hospital medical superintendents. The hospitals are accountable to the associated provincial health office.

Public and private higher education institutions form a key resource in HRH development in Zambia. The school of medicine of the University of Zambia has been the key provider of medical doctors, pharmacists, physiotherapists, biomedical scientists, environmental health officers, and degree nurses. More recently, the Copperbelt University and Mulungushi University schools of medicine have been chartered as public universities. Several private universities have joined the endeavor to produce health professions, for example, Lusaka Apex Medical University (LAMU), Cavendish University Zambia (CUZ) and Texila American University (TAU) are already established while University of Lusaka is formalizing regulatory procedures before becoming operational. The Zambian government is developing implementation plans for the new, and fourth public university for health professionals, Levy Mwanawasa Medical University (LMMU).

Twenty-five (25) other private training institutions participate in training different cadres of health professionals at diploma and certificate level. Some of these institutions also offer specialist training and in-service programmes. Notably, human capital development in both public and private training institutions is not adequately coordinated to align to MoH priorities, targets and sector needs.



Source: Health Professions Council of Zambia (2018)

Figure 2: Students Indexed at Health Professions Council of Zambia

The total number of graduates of health professionals increased from 2,246 in 2010 to 3,539 in 2013, representing a 56% increase disaggregated into 1,550 to 1,864 nursing professionals (20% increase) and 696 to 1,675 (141% increase) for other health professionals.

In-Service Capacity Development, Specialization Training & Continued Professional Development

In-service in the health facilities remained rudimentary and misunderstood. In-service specialization training continued to be university-based where officers were sponsored by government to pursue higher degrees in both private and public universities. Continued professional development programmes were mostly championed by the regulatory authorities and professional associations that demanded a minimum threshold of CPD points for license renewal.

However, deliberate efforts have now been instituted to spread in-service at internship and registrar (specialty training programme) training capacity to all the regions in Zambia. Table 6

below outlines the approved positions by province for medical officers, dental surgeons and pharmacists.

Table 6: Approved Training positions for Registrars & Interns (Junior Resident Medical Officers, Dental Surgeons and Pharmacists).

PROVINCE	Post	Salary Scale	Proposed Establishment
Lusaka	Registrar -Training	L	100
	Junior Resident Medical Officer - Training	J	220
	Dental Surgeon - Training	J	30
	Pharmacist - Training	J	110
Southern	Registrar -Training	L	40
	Junior Resident Medical Officer - Training	J	60
	Dental Surgeon - Training	J	10
	Pharmacist - Training	J	30
Copperbelt	Registrar -Training	L	75
	Junior Resident Medical Officer - Training	J	180
	Dental Surgeon - Training	J	25
	Pharmacist - Training	J	90
Eastern	Registrar -Training	L	30
	Junior Resident Medical Officer - Training	J	60
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	40
Central	Registrar -Training	L	25
	Junior Resident Medical Officer - Training	J	30
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	20
Western	Registrar -Training	L	25
	Junior Resident Medical Officer - Training	J	20
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	20
Luapula	Registrar -Training	L	30
	Junior Resident Medical Officer - Training	J	50
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	30
Northern	Registrar -Training	L	25
	Junior Resident Medical Officer - Training	J	30
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	20
North-Western	Registrar -Training	L	25
	Junior Resident Medical Officer - Training	J	30
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	20
Muchinga	Registrar -Training	L	25
	Junior Resident Medical Officer - Training	J	20
	Dental Surgeon - Training	J	5
	Pharmacist - Training	J	20
			1600

Source: Ministry of Health Restructuring Report (Management Development Division)

HEALTH WORKFORCE MANAGEMENT

Personnel management for the public sector is overseen by Public Service Commission (PSC), controlled by Public Service Management Division (PSMD) and Management Development Division (MDD) at Cabinet Office but carried out by MoH, as follows:

- PSC – carrying out delegated Presidential functions on recruitment, appointment, promotion, discipline, retirement, according to the Terms and Conditions of Service for the Public Service.
- PSMD – has secretarial responsibilities and setting and regulating recruitment, selection, promotion and terms and conditions for public servants.
- MDD – approving the structure, setting the government establishment, job descriptions, and functional relations according to the Terms and Conditions of Service for the Public Service.
- MoH – day to day HR management, short listing and submitting requests to PSC for recruitment, promotion, and transfer.
- Ministry of Finance – issuance of treasury authority, recruitment, promotion and transfer of accounts and audit officers and HR officers and other admin cadres respectively.

The regulations and procedures for the public sector are documented in the Cabinet Handbook (2010) and according to the Terms and Conditions of Service for the Public Service (2003) which lays down the principles, processes and procedures by the Zambian Cabinet Systems operates. The latter, specifies Service Commission Regulations, Service Commission Policies and Procedures for Employment in the Public Service, Disciplinary Code and Procedures for Handling Offences in the Public Service, constitute Human Resources Management Policies and Procedures in the Public Service.

Recruitment and Deployment

The current process of recruitment and deployment of workers is based on existing vacancy and request of health facilities, regions and departments. The process is centralized and managed by the Department of Human Resources Management and Administration at the Ministry's headquarters. In November, 1993, the Government of the Republic of Zambia (GRZ) introduced the Public Service Reform Programme (PSRP) which triggered a number of reforms intended to improve efficiency in public service delivery and strengthen involvement of citizens in the local decision-making processes. These included, among others, the National Decentralization Policy (NDP) whose thrust is on sector devolution or transfer of functions, power and authority with matching resources from the centre to autonomous local bodies. The Policy was approved in 2002 and launched for implementation in 2004 and was revised and re-launched in 2012. The Ministry is now set to devolve HR functions to district level. Local authorities will receive enhanced funding directly from the Treasury and new infrastructure will have to be developed, especially for the newly created districts. Sector-specific decentralization implementation plans have been developed under the supervision of the PSMD.

Prior to 2015, treasury authority for employment for the Ministry averaged 1,000 new employees. More recently, in three years (2015, 2016, and 2017) the MoH managed to employ over 8,000 new staff cumulatively. This has set the tempo for a transformative agenda in HRH management as one of the pillars for strengthening the health systems in line with the 7th

National Development Plan, the National Health Strategic Plan (2017 – 2021) and Sustainable Development Goals for 2030, and the attendant strategies. The staff were recruited from a pool of health professionals who had completed their training but were not employed on account of treasury authority.

The current process of recruitment requires streamlining in order to avoid long waiting periods before staff are included on the public service payroll. Further, the process of creating, defining, and grading new positions has to match the outputs of HRH in training and new cadres. These are important considerations for curbing attrition from the health sector. While new staff are oriented and inducted to the Ministry of Health regulations and operations, induction requires to be strengthened and more emphasis put on MoH strategic direction, values and performance standards. Additionally, future deployment should consider staffing norms, needs-based, utilization-based, and health workforce to population ratios, career progression and successions.

Absorption of the health workforce, by Government, the private sector or development partners, as they graduate from within and outside Zambia will have to be prioritized in the next 5 to 10 years. Additionally, with the enactment of the National Health Insurance Act, the private sector will absorb more health professionals as the private sector is expected to grow on account of additional funding and more economic prospects from insurance financing.

Transfers & Promotions

Presently, recruitment, deployment and transfers are managed by the MoH HQ, with diminished responsibilities and accountabilities for the provincial and district management teams. The system needs to empower the provinces and districts to have more responsibility and accountability for monitoring and managing the numbers, skill mix and geographical distribution in their local settings.

Health personnel may be transferred from one facility to another but their post still remains with the original facility and is recorded as filled. The processing of transfers and promotions is further complicated by not being systematically aligned to creation of additional funded positions in the sector. Further, promotions seem to be based on seniority of years served in the health service and/or acquisition of additional higher qualifications with little regard for performance. Succession planning, talent identification, and retention are not contrived or encouraged on account of the pervasive egalitarian mindset in the public service.

The problems related to recruitment, deployments, transfer and promotions could be addressed by improving the HR capacity at MoH and communications between the districts, provinces, the headquarters and PSMD.

Work Environment and Retention

Over the last fifteen years, the pay and working conditions in the health sector in Zambia have substantially improved to such an extent that the problematical and well-known brain drain has been reversed. For decades, Zambian was well recognized as a major source country of health worker migration to neighboring countries, United Kingdom, Australia, New Zealand and South Africa. Over the years the conditions of service have improved, and according to some sources (website http://www.datum-recruitment.com to see), Zambia is considered the highest

paying destination for health sector jobs in Africa, ahead of South Africa, Namibia, Mauritius, Tanzania, Ghana, Morocco, and Libya, respectively.

Improvements in conditions of service have been important in retaining staff in the health services. In-flows from returning personnel from the diaspora, NGO and Private health services, and academia have been an important source of staff for the Ministry. However, in the rural areas, shortages of staff housing and inadequacy of housing stock for rent are cited as the commonest impediment to recruitment and retention for the rural areas. Additionally, inadequate access to schools for children, inconsistent rural hardship allowances and limited career progression opportunities are also cited as impediments of rural recruitment and retention. Likewise, improved supply of equipment and medical supplies, workplace safety, workload management, can significantly increase job satisfaction.

Performance Management

The public perception of the civil service is not favourable. The Service is associated with poor performance and accountabilities, ineffective supervision, indiscipline, financial irregularities, and laissez-faire attitudes. Performance management can critically reverse these attributes, but more importantly, can improve efficiency of the depleted health workforce. Although, Public Service Management Division (PSMD) has introduced the Annual Performance Appraisal System (APAS), it is widely considered inadequate and ineffective by many. This could be due to poor correlation between the APAS criteria and the job descriptions, developed and implemented by the Management Development Division (MDD). More critically, however, supervisors and managers do not see the performance appraisal as related to the performance of their staff and the achievement of the services they are responsible for, let alone, the improvement of the quality of health services in Zambia. Likewise, change management, project management, middle-level and executive leadership require considerable improvement.

HRH Leadership and Coordination

The health sector has context- and sector-specific requirements and nuances. As such, HR personnel, roles and skills must be specifically tailored for the health sector. Whilst generic HR workforce planning, recruitment, hiring and deployment practices, personnel management, labour relations, payroll management and work environment management are useful they may not fully satisfy the requirements of the health sector. In-depth understanding of the promotive, preventive, curative, rehabilitative, and palliative workflows is crucial for making HWF decisions. Additionally, comprehensive understanding of the role and responsibility, capacity and skill-set of the different health professionals is also vital for making strategic decisions about HWF training and recruitment priorities.

MoH currently lacks adequate numbers and sufficiently health-oriented personnel at leadership levels to meaningfully contribute to the strategic value of the health sector. This may be a result of the high turnover in HR department at MoH, and because the parent organization for the HR department is PSMD, hence career progression within the HR sector, negates the necessity for investing in painstaking study of the Health sector by HR officers. Nonetheless, both generic HR skills and personnel and health-oriented leadership is required.

In 2017, the Ministry of Health, introduced two complementary HR departments to allow for growth in health context specific HR officers, as well, as officers with generic HR orientation. This was necessitated because in the past, the HR planning function had remained

underdeveloped, for example, health workforce indicators, analytics, reporting, and HR studies to categorize the health process and programmatic tasks and full-time equivalents were not fully developed and implemented. Furthermore, HR functions are centralized at the MoH HQ, and this deprives the HR management at health facilities and regions to develop to required responsibility and accountability to lead HR planning, management and development at local levels. Additionally, the HR departments at all levels have inadequate material capacity regarding computers, IT support for HRIS, and office management materials.

HRH Research

In-house HRH research policies need to be developed and/or strengthened. In the past, the MoH, has relied on support from development partners to initiate, implement, write-up and disseminate the results. Research and the attendant evidence can be instrumental for guiding interventions, strategies, policies and decision-making. Specific financial and other resources must be programmed for the HRH research agenda in MoH.

CHAPTER 3: STRATEGIC DIRECTION

VISION

A healthy and productive Zambian Population.

MISSION

To provide equitable access to safe, cost-effective and quality health services as close to the family as possible by safeguarding adequate numbers of the health workforce who are competent, caring, well-supported and motivated.

VALUES

The National Human Resources for Health Strategic Plan is informed by the need to promote:

- Universal health coverage (UHC).
- Competent and compassionate care in a clean environment.
- Balance along the continuum of care including promotive, preventive, curative, rehabilitative and palliative care.

GUIDING PRINCIPLES

The Primacy of the Health Workforce in Health Systems Strengthening

The attainment of high standards of health is dependent on availability, accessibility, acceptability and quality of the HWF. Therefore, health workers are the driving force of health systems without who health systems cannot function. This NHRH SP recognizes that the HWF will be critical to the attainment of national, regional and Sustainable Development Goals for 2016 – 2030. The NHRH SP further recognizes that the HWF underpin the SDG health Goal, target (3c) to "substantially increase health financing and the recruitment, development and training and retentions of the health workforce in developing countries, especially in least developed countries and Small Island developing states." This target uses health worker density and distribution as the key indicators.

Sustainable Development Goals & Universal Health Coverage

Universal health coverage is defined as safeguarding all people so that they can access promotive, preventive, curative, rehabilitative and palliative health services (WHO, 2010). Three major goals underpin universal health coverage:

(1) Equity of access to health services, that is, access not dependent on ability to pay but on need;
(2) The quality of health services is good enough to improve the health of those receiving services; and
(3) Financial-risk protection – ensuring that the cost of using care does not put people at risk of financial hardship.

Zambia, as a member of the international fraternity, adopted the United Nations framework for sustainable development. The framework includes a set of 17 goals and 169 targets collectively denoted to as the Sustainable Development Goals (SDGs), to be achieved between 2016 and 2030. SDG 3 – Good Health and Well-being- is of particular interest to the health sector because it seeks to "ensure healthy lives and promote well-being for all at all ages." Of the 13 targets, 3.8 is explicitly premised on universal health coverage (UHC), "achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all." To achieve UHC, three dimensions are normally considered: a) the package of services covered, b) the proportion of costs covered, and c) the population which are covered. All these are dependent on an adequate, fit-for-purpose, equitably-distributed, and motivated health workforce.

Transformative and Paradigm Shift Approaches

Stubborn and persistent HWF shortages together with unpredictable economic growth have necessitated the MoH to reevaluate the effectiveness of previous HRH strategies and operational plans. Based on experiences from elsewhere that have demonstrated the value of transformative advances alongside paradigm shifts, this NHRH SP presents a radical shift in approach from previous NHRH SPs. It embodies transformative and innovative HRH strategies in order to achieve meaningful impact through accelerated outputs, increased quality and equity and filling coverage gaps faced by the Zambian health system while harnessing economic gains and complying with key international and national policies and development agendas.

WHO's Global Strategy on Human Resources for Health: Workforce 2030

The NHRH SP is aligned to four objectives of the World Health Organization's Global Strategy of Human Resources for Health:

1. Optimize performance, quality and impact of the health workforce through evidence-informed policies on HRH, contributing to healthy lives and well-being, effective universal health coverage, resilience and strengthened health systems at all levels.

2. Align investment in HRH with current and future needs of the population and health systems, taking into account of labour market dynamics and education policies, to address strategies and improve distribution of health workers, so as to enable maximum improvements in health outcomes, social welfare, employment creation and economic growth.
3. Build capacity of institutions at subnational, national, regional and global levels for effective public policy stewardship, leadership and governance on HRH.
4. Strengthen data on HRH monitoring and accountability of national and regional strategies, and global strategy.

General Principles of Devolved Governance

Zambia is a constitutional democracy. The Constitution of Zambia (Amendment) Act, No. 2 of 2016 provides in Part IX the General Principles of Devolved Governance. This NHRH aligns to principles therein:

1. In 141 (1), the management and administration of the political, social, legal and economic affairs of the state shall be devolved from the national government level to the local government level.
2. In 141 (3), the different levels of Government shall observe and adhere to the following principles:
    a) Good governance, through democratic, effective and coherent governance systems and institutions;
    b) Respect for the constitutional jurisdiction of each level of government;
    c) Autonomy of the sub-structures; and
    d) Equitable distribution and application of national resources to the sub-structures.

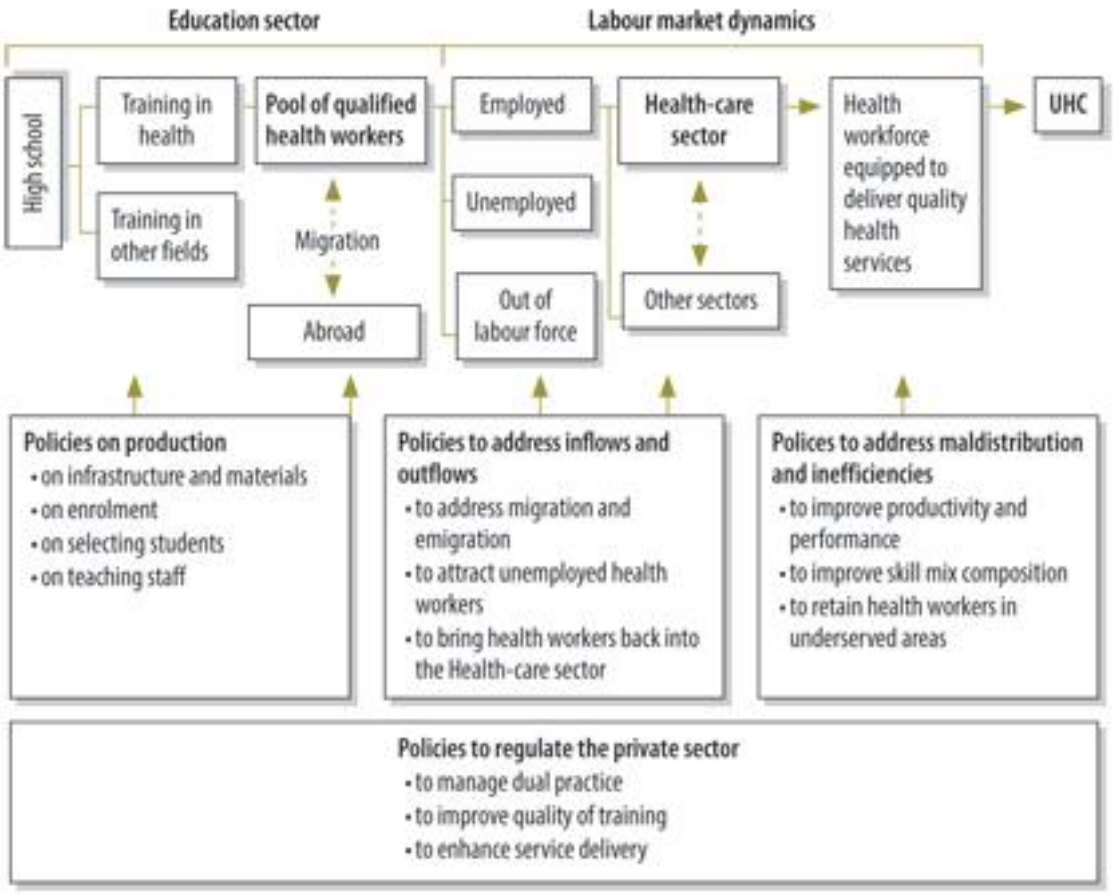
KEY ASSUMPTIONS/ENABLING FACTORS

The general conditions that should prevail to enable successful implementation of the HRH Strategic Plan are outlined below:

a) Sustained commitment to the realization of health sector goals as articulated in the National Health Strategic Plan (2017 – 2021).
b) Continued political stability and economic growth.
c) Sustained stakeholder goodwill towards the health sector.
d) Health and the requisite HWF remain a priority sector in line with the aspirations of the Zambia Vision 2030 and the 7th National Development Plan.
e) Government funding and financing of health sector programmes by development partners is sustained and/or increased over the lifespan of the NHRH Strategic Plan.

ANALYTICAL FRAMEWORK FOR HRH DEVELOPMENT

The analytical framework adopted for developing the NHRH SP (2018 – 2024) is the Health Labour Market Framework for Universal Health Coverage (HLMF) adopted by the WHO.



Source Sousa et. al, 2013

Fig. 3: Health Labour Market Framework and Policy Levers for Attaining Universal Health Coverage (UHC)

The HLMF provides a pertinent basis for underpinning the HRH strategy, for both demand and supply, at different stages from high school, through professional training, and the labour market, to the attainment of universal health coverage, considering appropriate policy interventions. The HLMF ensures that workforce shortages interventions consider both training of more health workers and the health labour market conditions that influence the absorption of newly-trained health workers into the health workforce. Without the attending to the absorptive capacity the newly trained health workers may be lost to migration, transfers to other sectors, or unemployment thus rendering the resources spent on training them a waste.

Leadership and Governance in Health Workforce Planning, Development and Management

STRATEGIC PRIORITY 1: Transform HRH Leadership and Governance

HR Decision Framework

The MoH, through this NHRH SP is advancing the HR Decision Making Framework (Appendix 1) to help shift how its leadership approach and understand the role of the HR function. Acquiring conversational competence in the basic principles of the framework is the beginning point for the envisaged transformation. The purpose of extending MoH's HR function beyond personnel management and provision of HR services to a decision framework is twofold: a) rephrase the important HR questions about key issues in decision making across the characteristics of the health workforce and, b) review health workforce decisions against the areas of the organization that can make a big difference in the success of the Ministry's mission and strategy, in terms of optimal solutions:

Table 7. Matrix of Consideration in HR Decision-Making

		Characteristics of the Health Workforce		
		Type of Health Workforce Cadre	Number of Each Type of Workforce Cadres	Quality of Performance of Each Workforce Cadre
Areas of high impact on success of Mission and Strategy	Investments in HR Planning, Development, Management			
	Service Delivery Processes & Practices			
	Achieving Strategic Value			

Note
Decision makers must consider the characteristics of the health workforce and how they interact with areas of high impact and decide where in the matrix improvements would make the biggest difference

The areas where the improvements should be made are the 'Pivot Points' in the system. Knowledge of the pivot points can help ensure that all resources, including human capital are deployed in relationship to their importance to strategic success, rendering, to leaders, competitive advantage for executing the mission of the Ministry of Health and the National Health Strategic Plan.

The aforementioned initiatives have been necessitated because the HR function needs staff with specialized skills. More importantly Ministry of Health staff in decision making positions require to be astute in linking HR functions to strategic value. The health sector is a complex system in which to effect radical transformative change. Strong leadership, policy champions, effective systems for planning, policy and decision-making at national, provincial and district levels are required. Technical expertise must be buttressed by long-term political commitment and sustained new investments.

At the moment the country lacks these "technical skills" and its leaders need to transform how they approach and understand the HR function in decision making. To become an integral component of the health system the human resources management role must transform from providing clerical functions (e.g. conveyancing of decisions) and support services (e.g. undertaking workforce gap analysis) to decision-making frameworks that improve strategic decisions. This kind of transformation requires the HR departments to contribute to expected sector results, through understanding what needs to be done to achieve them, and how accomplish what is required to be done and with what resources. The aim is to build institutional mechanisms to coordinate the health workforce contribution to strategic value at national, provincial and district level.

STRATEGIC PRIORITY 1	**TRANSFORM HRH LEADERSHIP AND GOVERNANCE**
Strategic Objective 1: To extend HRH planning, development and management from the perspective of personnel control and provision of HR Services to decision-making frameworks that link the HR function to strategic value.	
Key Result Area 1.1	Strategies
Improved decisions that impact or are dependent on health workforce decisions	1. Extend HR practice beyond Personnel management and Provision of HR services to Decision making frameworks. 2. Orient HQ staff, Provincial Health Directors, District Health Directors, medical superintendents, HR staff and stakeholders to new HR Decision Making Framework
Key Result Area 1.2	Strategies
Extended sector planning cycles & performance appraisal by incorporating HR Planning, Development and Management (PDM)	1. Incorporate HR planning, development and management issues into the Annual Planning Cycle and sector performance appraisals. 2. Formulate HR PDM policy briefs based on HR Decision Making Framework for planning cycle and sector performance appraisals.
Key Result Area 1.3	Strategies
Enhanced stakeholder coordination and HRH TWG leadership in order to improve stakeholder engagement.	1. Strengthen the HRH Technical Working Group Secretariat in order to facilitate effective and continuous participation of the HRH TWG in key HRH implementation, monitoring and evaluation issues. 2. Establish multi-sectoral mechanisms to collaborate with other stakeholders in HRH. 3. Develop the HRH communication strategy.

Key Result Area 1.4	Strategies
Improved HRH PDM performance in health system	1. Decentralize HRH PDM functions to provinces & districts 2. Capacity build national, provincial and district teams in HRH planning, development, and management using the HR Decision Making Framework. 3. Develop the capacity of supervisors and HR staff in HRH PDM technical skills. 4. Strengthened best practices in HRH PDM. 5. Attend international conferences and fora. 6. Create functional networks with regional and international HRH PDM communities to strengthen best practices in HRH PDM.

Human Resources for Health Information System

STRATEGIC PRIORITY 2: Operationalize the Human Resources Information System (HRIS)

A key challenge that Zambia faces is the incompleteness and poor quality of HRH data. Significant financial and technical investments are needed to obtain quality health workforce data that can inform national, evidence-based policy decisions as well as support the mission of the National Health Strategic Plan (NHSP 2017 – 2021). The process of establishing the Human Resources Information System (HRIS) in Zambia has been 'work-in-progress' for over 10 years. Zambia needs to begin utilizing the HRIS to analyze, report and inform health workforce policies and plans. This NHRH SP (2018 – 2024) seeks to quicken the process of establishing a functional, reliable, and harmonized HRIS. The system should have interoperability between the General Nursing Council, Health Professions Council of Zambia, and Ministry of Health for timely collection and reporting of health workforce information.

The health workforce planning process at national, provincial, and district levels will be better served if data is available to answer major policy questions, including the following:

1. Can the existing health workforce adequately meet the service delivery demands?
2. Is the health workforce, available, accessible, and accepted by the population?
3. What are the numbers of health professionals in training and what are the expected outputs from the training institutions?
4. What are the trends in the existing health workforce stock regarding skill mix, geographical distribution, private-public sector distribution, foreign trained numbers and distribution, gender profile and attrition rates?
5. What are the current gaps in quantities and by cadre type, distribution equity and skill mix?

In this regard, it is a necessity for Zambia to define core indicators that will support strategic workforce planning and national monitoring and be able to track health workforce stock, education and training pipelines, distribution, flows, demand, capacity and remuneration. Indictors are broadly categorized by the WHO, Handbook on Monitoring and Evaluation of Human Resources for Health, as follows:

Table 8: Indicator Categories for Workforce Planning and Monitoring.

Indicator Domain	Indicator Category
Education	1. Health workforce in education 2. Education regulation 3. Education finances;
Labour Force:	4. Active health workforce stock 5. Health labour market flows 6. Employment characteristics and working conditions 7. Health workforce spending and remuneration;
Serving Population Health Needs	8. Skill mix composition for models of care 9. Performance and productivity 10. Health workforce governance, information systems and planning

Accordingly, a compendium of indicators will enable the tracking of health workforce information at national, provincial and district levels. The generic list of indicators developed by WHO will require to be evaluated for suitability for the local context.

STRATEGIC PRIORITY 2	**OPERATIONALIZE THE HUMAN RESOURCES INFORMATION SYSTEM (HRIS)**
Strategic Objective 2: To strengthen and make functional the Human Resources Information System (HRIS) so that it can provide reliable, up-to-date health workforce information in order to better support policy- and decision- making.	
Key Result Area 2.1	Strategies
Strengthened Human Resources for Health Information System registries to track health workforce stock, education, distribution, flows, demand, capacity and remuneration.	1. Assess progress of HRIS project being established at HPCZ, GNC and the MoH HQ. 2. Operationalize the HRIS information systems platform for use by MoH HR Planning Units 3. Integrate the HRIS for interoperable use at Health Professions Council of Zambia, General Nursing Council of Zambia, and the Ministry of Health Headquarters.
Key Result Area 2.2	Strategies
Build a compendium of approved health workforce definitions, cadre classification and indicators for use in Zambia	1. Establish a Task Force for Health Workforce Definitions and Indicators. 2. Compile the Zambia Compendium of approved Health Workforce definitions, cadre classification and indicators for Zambia
Key Result Area 2.3	Strategies
Enhanced HRH forecasting & modelling capacity at the Ministry of Health	1. Create an HRH TWG Sub-committee to support regular HRH forecasting, modelling & optimization studies and technical skill transfer to MoH staff. 2. Create database of all training institutions and numbers of students by professional cadre and region and district location. 3. Create a database of all bed spaces and staff demands by level of care for health institutions by professional cadre and region and district location.
Key Result Area 2.4	Strategies
Improved communication of HRH Status in Zambia	1. Develop a communication strategy. 2. Form a Health Workforce Bulletin and publish regular reports on the Health Workforce.
Key Result Area 2.5	Strategies
Consolidated health workforce research activities to generate evidence for policy and guidelines.	1. Create a Health Workforce Research Forum 2. Support health workforce research. 3. Organize the annual Health Workforce Research Forum. 4. Integrate research into the overall National Health Research Agenda

Structural Reform For Health Professions' Education And Training & Scaling Up HRH Outputs

STRATEGIC PRIORITY 3: Transform Health Professions' Education and Training by Creating a Nationwide Network of Academic Health Complexes (AHCs)

Traditionally, the ministries responsible for health and higher education have been the key responsible ministries for training health professionals in Zambia. The Ministry of Health, assigned authority by Government Gazette notice number 836 of 2016 (and its earlier editions) to train health professionals at certificate and diploma level. Nurses, midwives, clinical officers, environmental health officers, laboratory technicians, and more recently community health assistants are trained by the Ministry of Health. Technical and Vocational training has complemented this training by producing radiographers, physiotherapists, laboratory technicians, and meat inspectors. Qualifications at degree level and postgraduate level have been the preserve of the Ministry of Higher Education as authority of the Higher Education Act number 4 of 2013 (and preceding editions).

Notably, in Zambia, health workforce shortages that have persisted for almost 20 years and the current deficit against approved establishment is 20,000 health workers. Low production coupled with an unpredictable fiscal absorptive capacity are putatively the reason. Despite a substantial increase in the number of graduates in recent years, a large gap still exists between what is required and what is available. This is specifically notable for nurses and midwives, physicians, clinical officers and laboratory staff.

Upon review of the unsatisfactory performance of previous HRH strategies in mitigating for the severe workforce crisis, the Ministry, heeding international (WHO, 2013; UN, 2016) and regional calls (ECSA-HC, 2013) has resolved to adopt a paradigm shift in how to plan, educate, deploy, manage and reward health workers. The premise is to institute a transformative scale up of health professionals' education and training to increase the quantity and quality and relevance by enlisting all the (regions) and selected district facilities to participate in the production pipeline. This approach will amplify the role of the Ministry of Health in health professionals' education and training at all levels including certificate, diploma, degree and postgraduate awards. A high-level policy decision of the Government, has as such leveraged the authority of two statutes to create a transformative platform for innovative intervention in the HRH crisis.

Notwithstanding, the Government recognizes that lasting under-investment in education and training of health workers in Zambia and the mismatch between responsibilities for educating health professionals in relation to health systems and population needs have worsened health workforce shortages. Furthermore, while most health educators are expected to fulfil dual roles of clinical practitioner and teacher, and thus have at least two challenging sets of competencies to acquire. The education of health professionals has traditionally been isolated from health service delivery needs and has not been adapted to rapidly changing service delivery demands.

The Ministry's HRH strategic agenda seeks to address all the challenges identified by addressing both quantity and quality aspects of scaling up health professions' education.
The key areas of intervention include increasing the capacity of educational institutions in terms of infrastructure, numbers and competencies of training instructors, updating curricula regularly, but most importantly linking education and training to national needs by coupling training with service delivery. The HRH strategy considers the tenets of the WHO Steps in Health Workforce Development (2006).

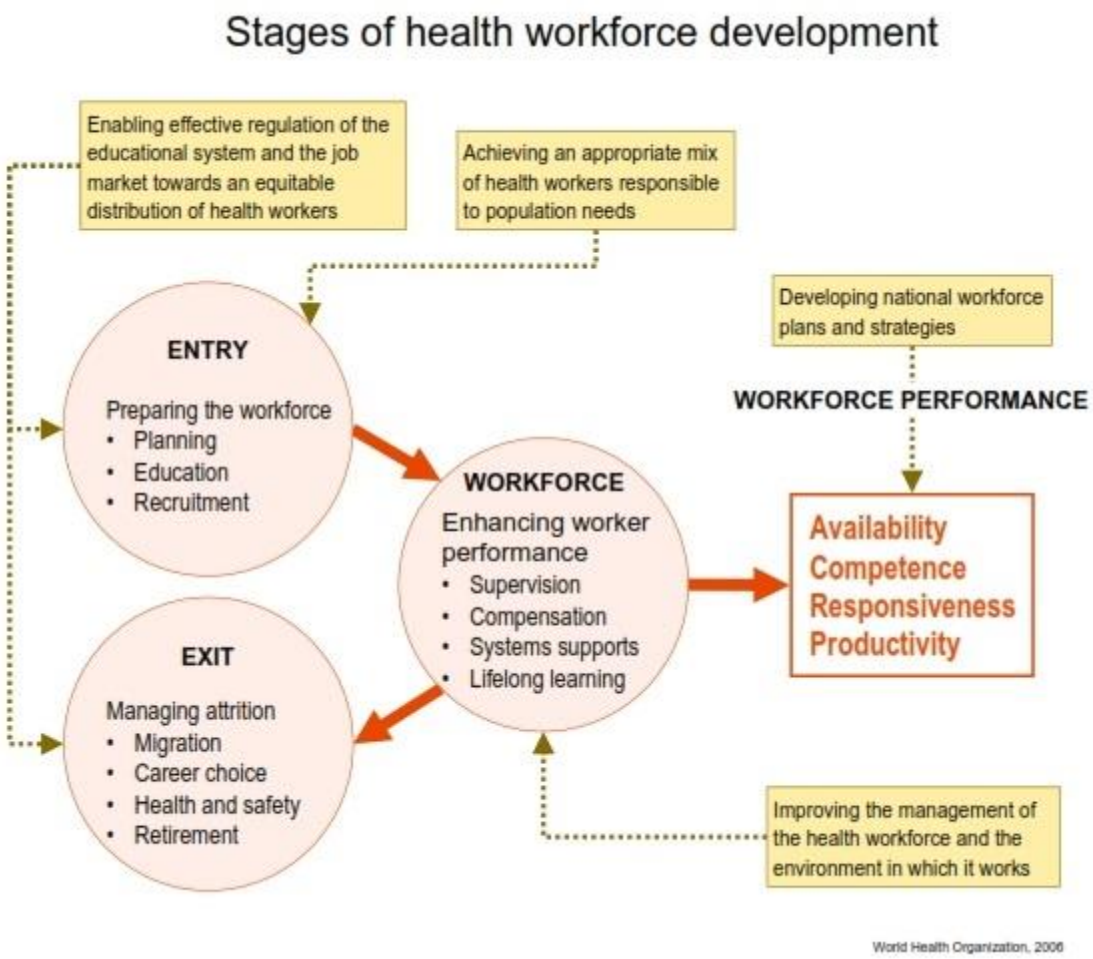


Figure 4: Stages of Workforce Development

A cornerstone innovation in the transformation is the aspect of creating a network of academic health complexes at national, regional (provincial) and district level facilities:

1. Establish a National Public University, as the national hub, to spearhead health professionals' education and training dedicated to combining service delivery and training at national, provincial and district level.
2. Expand faculty and teaching and learning areas by enlisting all the provinces and selected districts' capacities to participate in training health professionals in order to create decentralized responsibility and accountability for HR planning, development and management.

The initiative to increase the presence of provincial and district training hubs is augmented by the evidence that students from rural and remote areas are more likely to remain in rural and remote regions.

Academic Health Complexes (AHCs)

Historically, Ministry of Health training facilities have been attached to a service delivery health facility, such as a provincial or district hospital. The two units are collectively managed, centrally, by the medical superintendent of the service delivery health facility although the training institutions have a designated Principal Tutor and the training institutions receive funding directly from the Ministry of Finance. The service delivery health facility and the attendant training institutions are collectively, in this National Human Resources for Health Strategic Plan, being referred to as an Academic Health Complex (AHC). The AHCs will be organized around hospitals but with a special emphasis on a shift towards prevention and primary care. In Academic Health Complexes (AHCs) service delivery and the attendant professional training will have critical roles to play in the health system. The two facets complement each other in emphasizing continuity of service delivery and evidence base of the practice of health professions. This complementarity can be best achieved in an AHC where both elements are emphasized.

Accordingly, this NHRH SP seeks to establish a nationwide coherent training framework that spans and inter-links the academic health complexes (AHCs) into an integral training system that applies a decentralized and distributed campus model. Levy Mwanawasa Medical University (LMMU) has been designated the national and awarding training institution. Each province will designate one AHC as a regional training hub of the LMMU and selected AHCs as district training satellites. This national training framework further seeks to make fundamental the tenet of combining health professions training with service delivery. The tenet is embodied in the 70:20:10 training approach shown below.

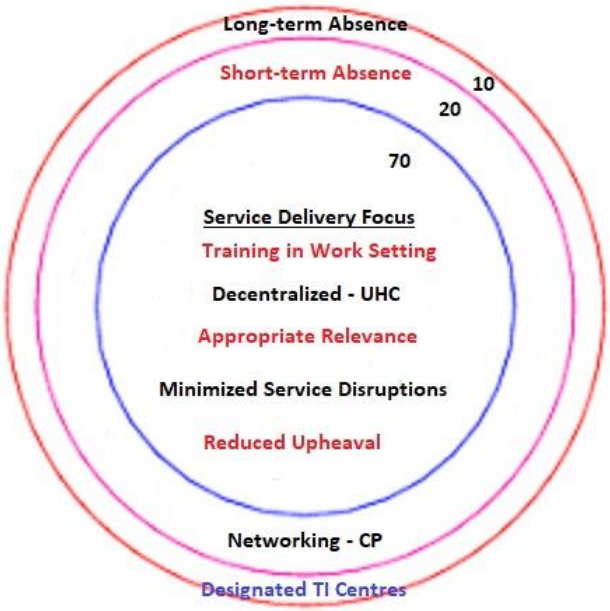


Figure 5: The 70:20:10 Approach in Health Professions' Education

In the 70:20:10 approach, 70% of the training takes place in the participants' work settings, 20% are short-term off-site trainings and 10% are long-term off-site training approaches. This way the training is focused on service-delivery, enhances appropriate context relevance, minimizes service disruptions and reduces staff upheavals. The 20% allows for networking and face-to-face training opportunities with a community of practice. The 10 % is allowable for exposure to specialized services, health facilities and/or training institutions. The 70:20:10

approach and the use of practicing clinicians as the key teaching resources diminishes "theory-practice gap" that may appear when faculty is composed of mostly theoretically-oriented teachers.

Additionally, the 70:20:10 approach provides impetus to focus in-service delivery on improved efficiency using the existing healthcare workforce by increasing their productivity and performance.

The National Academic Health Complex – Levy Mwanawasa Medical University (LMMU)

Levy Mwanawasa General Hospital had a bed capacity of 239 and was constructed at a cost of US$ 8 million and US$ 2 million for equipment. The hospital is being upgraded to a much larger, state-of –the art hospital with bed capacity of 826 at an estimated cost US$ 90 million over three years. The transformation of Levy Mwanawasa General Hospital has been necessitated by the need for another bigger hospital to cater for the ever-growing population of not only Lusaka province in particular but the nation in general. Alongside the development of Levy Mwanawasa General Hospital, the Ministry of Health has been constructing the 3,000-capacity National Health Training Institute (NHTI) at a cost of ZMW K148,006,027.67 (USD $ 14,800,602.77).

During the ground-breaking ceremony for the upgrade of Levy Mwanawasa General Hospital the Republican President His Excellency Mr. Edgar Chagwa Lungu, on 7th June, 2017, directed that the National Health Training Institute will be annexed to Levy Mwanawasa General Hospital to collectively become the Levy Mwanawasa Medical University (LMMU). The implication of this transformation is that the Levy Mwanawasa Medical University will be the fourth public University Teaching Hospital offering higher education qualifications for health professionals. This makes LMMU the befitting National AHC for the nationwide network of AHCs.

Integrated Career Paths in Clinical and Academic Medicine

Teaching staff will be appointed to a joint clinical and academic appointment and promotion framework that allow for parallel tracks and recognised career pathways. Each application will be assessed against the appointment/promotion criteria applicable for the relevant career path and related grade. The career paths are: Research & Teaching; Research; Teaching & Scholarship; and Clinical Medicine. There is built-in flexibility to take an alternative career path at all grades.

The joint appointment and promotion system allows for the immediate expansion of the teaching staff from a limited pool of staff with specific job titles as tutors/instructors to the entire workforce in the health sector who are appropriately qualified. Furthermore, academic credit can be availed to service delivery-focused staff who take up significant academic roles, responsibility and achieve the requisite academic outputs.

The PSMD and MDD will be engaged for appropriate authority for the corresponding positions, job grading and descriptions.

Table 9: Clinical and Academic Career Pathways

Level	Research & Teaching	Research	Learning, Teaching & Scholarship	Clinician Educator
1	Professor	Professor	Professor	Professor
2	Associate Professor	Associate Professor	Associate Professor	Associate Professor
3	Senior Lecturer / Reader	Senior Research Fellow	Accredited Senior University Teacher	Consultant Clinician Educator
4	Lecturer	Research Fellow	Accredited University Teacher	Accredited Clinician Educator Senior Registrar
5	Lecturer	Research Associate	Accredited University Teacher	Accredited Clinician GMO
6	SDF	SDF	SDF	SRMO
7		Research Assistant	Teaching Assistant	JRMO

SDF = Staff Development Fellow; GMO = General Medical Officer; SRMO = Senior Resident Medical Officer; JRMO = Junior Resident Medical Officer. [Level 7 is the lowest and ascends to Level 1].

STRATEGIC PRIORITY 3	**TRANSFORM HEALTH PROFESSIONS' EDUCATION AND TRAINING BY CREATING A NATIONWIDE NETWORK OF ACADEMIC HEALTH COMPLEXES (AHCs)**
Strategic Objective 3: To establish a nationwide network of Academic Health Complexes spanning national, regional (provincial) and district levels.	
Key Result Area 3.1	Strategies
Improved national coordination and leadership of the health workforce development agenda	1. Formalize the Ministry of Higher Education's declaration of LMMU as a public university with special authority to be administered by Ministry of Health in line with the Presidential Assurance. 2. Establish AHC National Advisory Committee 3. Establish a Task Force to prepare the LMMU and AHCs operational frameworks. 4. Establish and administer a National Health Training Fund (NHTF) financed outside the national budgetary allocation to the Ministry of Health to supplement the financing framework for AHCs. 5. Develop and implement national training plan for health professionals for the seven-year period.
Key Result Area 3.2	Strategies
Improved provincial coordination and leadership of the health workforce development agenda	1. Establish a Regional Training Hub of the LMMU in each of 10 provinces of Zambia 2. Integrate existing Training Institutions and selected health facilities into identifiable AHCs.

	3. Develop operational frameworks for regional training hubs.
Key Result Area 3.3	Strategies
Strengthened coordination and leadership for AHCs	1. Develop district, provincial and national structures for the oversight, planning and governance of Academic Health Complexes. 2. Develop an accreditation framework for AHCs.
Key Result Area 3.4	Strategies
Improved Training Infrastructure for AHCs to include library, skills lab, classroom blocks, 150-capacity lecture theatre, and student bed capacity.	1. Develop prototype design for regional AHCs training centres. 2. Develop an infrastructure plan for AHCs. 3. Secure financing for construction AHCs training infrastructure. 4. Construct purpose-built training infrastructure annexes to the health service delivery facility.
Key Result Area 3.5	Strategies
Integrated career paths in clinical and academic medicine to encourage teaching, learning and scholarship as an integral function of the health professions and expanding the faculty.	1. Establish a joint clinical and academic appointment and promotion framework that allow for parallel tracks and recognised career pathways. 2. Develop a joint clinical and academic appointment/promotion protocol. 3. Obtain approval for positions and grades from Public Service Management Division (PSMD).
Key Result Area 3.6	**Strategies**
Strengthened in-service system in order to improve work performance	1. Revive and establish in-service units in Academic Health Complexes (AHCs). 2. Implement continuous professional development programmes in Academic Health Complexes (AHCs). 3. Refocus attention on skill development and improved job performance across national, regional and district AHCs. 4. Establish Faculty Development programmes to help prepare staff for their roles as educators, clinicians, researchers and administrators.

STRATEGIC PRIORITY 4: Establish the Specialty Training Programme (STP)

The health workforce crisis in Zambia hinders the nation's capacity to attain Sustainable Development Goal Number 3 to ensure healthy lives and promote wellbeing for all at all ages and the attendant Target 3.8 to provide Universal Health Coverage. The health workforce crisis in particular denies millions of Zambians access to specialist care. Specialists perform an important dual role that straddles provision of specialist care in the referral hierarchy, and to train other health professionals. The role of educator becomes more pertinent where equitable geographical distribution of the health workforce is prioritized for both service delivery and health professionals' education and training.

While traditionally, there are two pathways of training to become a specialist, that is, a) academic postgraduate degrees, or b) competence-based professional training by a community of practice, for the last 20 years, specialists training in Zambia has relied on the former. In Europe, Canada, Australia, and most of Asia, professional training has been the mainstay of specialist training.

In its efforts to boost health workforce numbers in general, and that of specialists, in particular the Ministry of Health has adopted internationally and regionally acclaimed professional competence-based training as a modality for immediate scale up of specialists in an equitably distributed manner. The East Central and Southern Africa Health Community (ECSA – HC), for example, recognizes that relying only on the traditional approach of training specialists in universities would take very many years to achieve the numbers of specialists required in the region.

In response to these international, regional and national imperatives, the MoH has developed and is implementing the Specialty Training Programme (STP). The objectives of the STP are to:

1. Accelerate the production of specialists to increase universal health coverage so that more Zambians, in as many geographical regions of the country, can access specialist training and have access to specialist care.
2. Increase the number of specialists, as catalysts, to increased number of training facilities and ultimately increased outputs of health workers, so that Zambia can become self-sufficient in numbers and skill-mix of health workers to manage its improved healthcare service delivery systems.
3. Promote specialist training based on professional competence-based certification by specialty professional bodies in order to promote the growth of specialist professions in Zambia.
4. Help reduce the financial burden and cost of sending Zambians for treatment abroad to access specialist services.

STRATEGIC PRIORITY 4	ESTABLISH THE SPECIALTY TRAINING PROGRAMME (STP)
Strategic Objective 4: To establish the specialty training programme (STP) using competence-based professional training offered at accredited health facilities to complement university-based postgraduate training.	
Key Result Area 4.1	Strategies
Improved equitable distribution of specialists throughout the country.	1. Undertake a gap analysis for requirements for STP training accreditation. 2. Identify Provincial STP training hubs in each province. 3. Systematically fill the gap to achieve STP site accreditation. 4. Establish STP training sites in all the 10 provinces of Zambia. 5. Devise a plan to retain specialists involved in STP.
Key Result Area 4.2	Strategies
Enhanced professional supervision in specialty training	1. Provide technical support for development of the ZACOMS Strategic Plan. 2. Strengthen the capacity of the Zambia Colleges of Medicine and Surgery (ZACOMS). 3. Conduct STP Technical Support visits to AHCs. 4. Sign MoUs for strategic partnerships with regional and international specialist training agencies and research institutes. 5. Develop accreditation mechanisms to accredit MoH staff as clinical educators and examiners. 6. Facilitate increased leadership by communities of practice in professional matters.
Key Result Area 4.3	Strategies
Improved capacity to manage specialized treatment locally in order to increase accessibility to specialist care and reduce expenditure for treatment abroad	1. Map international specialists' teams that have treatment periods in Zambia, & destinations abroad that receive patients from Zambia. 2. Partner international specialists' teams with Local STP Specialists for treatment, mentorship and skills transfer for sustainability.
Key Result Area 4.4	Strategies
Sustained quality of specialty training programmes	1. Mainstream quality improvement and assessment in accredited training facilities. 2. Develop STP Standards and Guidelines. 3. Coordinate with Ministry of Health and cooperating partners to support hospital infrastructure, equipment and human resource modernization programmes at STP training sites. 4. Facilitate internal and external quality assurance processes in STP training sites.

STRATEGIC PRIORITY 5: Scale Up Human Resources for Health (HRH) Outputs

In order for Zambia to achieve the Sustainable Development Goals (SDGs), the objectives of both the 7th National Development Plan and the National Health Strategic Plan (NHSP 2017 – 2021), she has to prioritize increasing the numbers, strengthening skill mix and distribution of its health workforce. Traditionally, five methods are employed to estimate the HRH requirements, that is:

a) Needs-based approach which estimates HRH requirements based on health needs of the population, assuming that all health needs can and should be met;
b) Utilization-based approach which estimates HRH requirements based on current level of health services utilization and projects the future requirements based on future changes in the structure of the population;
c) Workload Indicators of Staffing Need (WISN) which estimates HRH requirements based on health worker's workload, with activity (time) standards applied for each workload component and further determines how many health workers of a particular type are required to cope with the workload of a given health facility;
d) Target-setting approach which sets the number and types of services as specific targets at various levels of care considering the current level of technology and the demand of the population for various health services;
e) Health workforce to population ratios which estimates the requirements based on a set standard per workforce ratio per population standard.

Except for the health workforce to population ratio, the other methods seek to translate the required number and types of health services into time estimates and then express these as full-time equivalents of health personnel, using norms and standards on the actual productive time.

The needs-based, utilization-based, service target based, and adjusted service target approaches require extensive data and allocation of resources which were not available at the time of writing. While recognizing that the health workforce to population ratio does not consider personnel utilization and interactions between numbers, mix, distribution, productivity and outcome, it formed the mainstay of the gap estimations of this National Human Resources for Health Strategic Plan. Secondary considerations included the proportional representations of disease burden attributable to HIV/AIDS, tuberculosis, malaria, childhood disease, maternal-related conditions as per the National Health Strategic Plan (2017 – 2021), and the staffing needs for the unprecedented health infrastructure construction Zambia has undertaken. See Appendix 2 for the Gap analysis.

By the year 2025, based on the combined health workforce ratio of 4.1 per 1,000 population, the country will require 91,554 health workers. Given the current stock of 44,583, the projected in-flows of 17,976 and a projected attrition of 8,649, Zambia, will have a health workforce deficit of 37,644 in 2025. Meanwhile, the NHSP (2017 – 2021) has set a target of 20,000 additional HRH in five years.

In 2016, the top-ranking conditions using Disability-Adjusted Life Years, were HIV/AIDS and tuberculosis; diarrhea and lower respiratory infections; neonatal disorders; malaria and neglected tropical diseases; cardiovascular diseases; and nutritional diseases, respectively. This

ranking of conditions translated into a disease burden share of 30% attributable to reproductive, maternal, newborn, child health and nutrition (RMNCHN); 23% to HIV/AIDS and TB, and 12% to malaria, neglected tropical diseases and cardiovascular diseases.

Table 10: Summary of Staff Requirement Based on Staff Complement for Health Facilities in Zambia

Type of Health Facility	Number of Facilities	Number of Staff Required
3rd Level	10	14,970
2nd Level	34	24,888
1st Level	97	21,632
Clinics	17	3,077
Urban Health Centre	659	115,325
Rural Health Centre	1,161	15,093
Health Post	953	9,530
	Total	**204,515**

Source: National Surgical Anaesthesia Obstetric Strategic Plan & Inventory of Health Facilities in Zambia (MoH, 2017)

Table 11: Summary of Top Raning Conditions/Groups Using Disability Adjusted Life Years.

Top Ranking Conditions Using Disability-Adjusted Life Year	Top Ranking Share of Burden by Disease Groups
1. HIV/AIDS & Tuberculosis	1. Reproductive Maternal, New Born Child Health and Nutrition (RMNCHN) = 30%
2. Diarrhea/Lower Respiratory Infections	2. HIV and TB = 23%
3. Neonatal Disorders	3. Malaria, neglected tropical diseases, and Cardiovascular disease = 12.2%
4. Neglected Tropical Diseases & Malaria	
5. Cardiovascular Diseases	
6. Nutritional Deficiences	

Source: http://vizhub.healthdata.org/gbd-compare/

Using the current staffing norms a colossal 204,515 health workers would be required to manage all the health facilities in Zambia: 14,970 for the 10 level-3 health facilities; 24,888 for the 34 level-2 health facilities; 21,632 for the 97 level-1 health facilities; 115,325 for the 659 urban health clinics, and 9,530 for the 953 health posts. By health worker cadre the largest deficit is registered nurses (5,612), registered midwives (2,550), community health workers (2,059), and medical doctors (2,205). The smallest deficits were for physiotherapy (152), medical licentiates (202) and dental surgeons (266). The full list of deficits in shown in table 11 below.

Table 12. Projected Requirements of the Health Workforce by Cadre for 2021 and 2025.

REFERENCE	NHSP (2021)	NHRH (2025)
Doctors	2,205	4,150
Dental Surgeons	266	500
Medical Licentiates	202	380
Clinical Officers	1,923	3,620

Mid-Level Anaesthetists	478	900
Registered Midwives	2,550	4,800
Registered Nurses	5,612	10,564
R/Public Health Nurses	393	740
Environmental Health	600	1,129
Community Health	2,059	3,875
Nutrition	614	1,155
Pharmaceutical Staff	1,567	2,950
Radiography	579	1,090
Lab Services	800	1,505
Physiotherapy	152	286
Total	**20,000**	**37,644**

The STP is a transformative programme with the potential to significantly increase the number of specialists trained. The STP programme commenced in 2018 in five provinces of Zambia.

The STP approach has capacity to enroll 341 specialist trainees per annum. For instance in 2018, 215 specialist trainees were enrolled into the programme. This approach demonstrates unprecendented and an extraordinary improvement given that the previous model of specialist training produced only 259 specialists in 53 years of independence. The table below shows a disaggregated profile of specialist trained under the period since independence.

Table 13: Comparison of Specialists since independence & STP Enrolments in 2018.

	Paediatricians	**Physicians**	**Obstetricians**	**Surgeons**	**Total**
1964 - 2016	49	49	83	78	259
2018 Intake	55	70	50	145	320

STRATEGIC PRIORITY 5	**SCALE UP HUMAN RESOURCES FOR HEALTH (HRH) OUTPUTS**
Strategic Objective 5: To train 37,644 health professionals and 759 specialists in 7 years	
Key Result Area 5.1	Strategies
Increased HRH output capacity	1. Use Levy Mwanawasa Medical University for large National Intakes for core training. 2. Distribute the National Intakes to the regions for clinical attachments. 3. Use the established national framework of training system to coordinate and implement national targets of HRH outputs. 4. Increase intakes at national and regional training sites. 5. Increase the number of HRH programmes. 6. Increase the number of institutions offering blended learning platforms. 7. Increased use of ICT blended learning platforms to access more learners.

Key Result Area 5.2	Strategies
Increased number of specialists	1. Promote establishment and accreditation of STP training sites in every province of the country. 2. Increase intakes at established STP training sites. 3. Increase the number of STP programmes.

HARNESSING THE POWER OF COST-EFFECTIVE INFORMATION AND COMMUNICATION TECHNOLOGIES TO ENHANCE HEALTH EDUCATION AND TRAINING

STRATEGIC PRIORITY 6: Harness Information Communication Technologies in Health Professionals' Education & Training

The Zambian government is committed to SMART ZAMBIA in which all sectors harness the power of information and communication technologies. In the health sector, various opportunities exist to leverage ICTs, for example, telemedicine, e-health, m-health and e-learning. For e-learning, the evidence emerging is encouraging, e-learning can be embraced into health professional education, as a way to broaden access, scale up learning opportunities, and improve relevance of training. The evidence suggests that both computer-based and web-based eLearning is no better and no worse than traditional learning with regards to knowledge and skill acquisition.

Given the crippling shortage of the human workforce, especially trainers, e-learning can be harnessed to support pre-service learning, in-service programmes, such as, capacity building and skill development, and continued professional development. Where traditional methods would require trainers to be present in person e-learning offers an array of modes of delivery that are self-directed and student-centred. Information and communication technologies can be used exclusively (e-learning) or can be combined with traditional educational methods (blended learning). The two delivery modalities have acquired increasing importance in the Zambian setting. They have been used in training registered nurses, clinical officers and service-delivery settings for disease-specific capacity building for health professionals. The power of e-learning is more significant decentralized and devolved learning settings when experts are distant and the student more isolated in a remote health facility.

For the learner based in more remote parts of the country or who has no access to physical brick and mortar institutions, ICT may:

- Break down physical and geographical barriers;
- Improve access to relevant experts and peers;
- Allow for self-directed and more personalized learning; and
- Afford an opportunity to train where ordinarily access to educational opportunities would be unlikely.

In embracing ICT in health professionals' education and training this NHRH SP recognizes the obstacles that can hinder harnessing the full potential of e-learning: lack of internet access and ICT infrastructure, costs of connectivity, lack of electricity supply, lack of ICT knowledge,

resistance to change among trainers, and restrictive regulatory frameworks, which must be overcome.

STRATEGIC PRIORITY 6	**HARNESS INFORMATION COMMUNICATION TECHNOLOGIES IN HEALTH PROFESSIONS' EDUCATION AND TRAINING**
Strategic Objective 5: To develop, scale up and strengthen access to reliable and cost-effective e-learning platforms for pre-service, in-service and continued professional development programmes.	
Key Result Area 6.1	Strategies
Enhanced capacity to harness benefits of cost-effective information communication technologies for pre-service, in-service and continued professional development (CPD) education and training programmes in order to scale up access for students in health professions.	1. Develop e-platforms for pre-service, in-service, and CPD e-learning courses at national, regional (provincial) and district levels. 2. Conduct ICT Training for e-learning for health professionals' educators and students. 3. Commission content experts to develop homegrown pre-service, in-service, and CPD e-courses. 4. Build capacity for ICT infrastructure to support e-platforms.
Key Result Area 6.2	Strategies
Improved quality frameworks for ICT- based health professionals' education and training programmes.	1. Develop standards, accreditation procedures and evaluation criteria for training delivered through e-learning. 2. Develop evaluation protocols for accreditation to support the quality of training delivered through e-learning.
Key Result Area 6.3	Strategies
Strengthened capacity to monitor and evaluate ICT-based health professionals' education and training programmes.	1. Develop mechanisms to monitor and evaluate ICT (e-learning) based learning. 2. Establish an inventory of e-learning and ICT-based programmes being delivered in Zambia. 3. Evaluate impact of e-learning and ICT-based programmes regularly.

Health Workforce Recruitment Deployment & Retention Management

STRATEGIC PRIORITY 7: Scale-Up Health Workforce Recruitment, Equitable Distribution & Retention

The Zambian Government has prioritized human resources as key ingredient in its economic growth and development agenda acknowledging that the country needs a healthy workforce that is productive to contribute to the development of the nation into a middle income prosperous nation. This position is absolute for both the Vision 2030 and the 7th National Plan. Further, the National Health Strategic Plan (2017 – 2021) has recognized that the target of universal health coverage cannot be attained without an appropriately qualified competent and equitably distributed health workforce. Necessarily, Zambia should construe efforts to increase the health workforce and recruit them into jobs in the health sector as an Investment Case to make gains across several Sustainable Development Goals, including SDG 1 (poverty elimination), SDG 3 (good health and well-being), SDG 4 (quality education), SDG 5 (gender equality) and SDG 8 (decent work and economic growth). The health sector must be seen as a key economic sector and a job generator. The allocation to the health sector must therefore be increased to surmount financial constraints limiting its capacity to expand its establishment, pay competitive wages, and improve working conditions. Furthermore, concerted efforts are required to improve the working conditions and incentives for health workers in the rural and remote areas of the country to attract and retain more health care workers to rural health facilities.

Given the foregoing, this NHRH SP proposes ambitious solutions to ensure that the Zambia has the right number of jobs for health workers with the right skills and in the right places to deliver universal health coverage, Vision 2030, the 7th National Development, and the National Health Strategic Plan (2017 – 2021) without ignoring the dynamics of the health labour market.

The Ministry of Health recognizes that Zambia is faced with a once-in-a-generation opportunity to invest in human resources recruitment, equitable distribution, retention and appropriate management to offer a long-lasting solution to the perpetual health workforce crisis. There is no time to lose. Business-as-usual approaches will not change prevailing situation. What is required is a bold shift in vision, policy and action reflective of the magnitude of investment required for transformation proposed in this NHRH SP. Jobs are a high priority for Zambians and the Zambian government because job creation contributes significantly to poverty reduction, economic empowerment, gender equality, social justice and human security. The health sector, must be acknowledge, as one of the largest growing sources of jobs in Zambia for both women and youth.

Notwithstanding, the Ministry of Health realizes that this is not a challenge it can accomplish alone. Changes of mindset and commitment will be needed in various ministries including financial, higher education and labour sectors. Importantly, high-level political will, leadership, and collaboration across these sectors will be crucial. High unemployment and lack of access to care in the context of high disease burdens is inimical Zambia's economic and development

agendas. As such, the Ministry of Health is committed to doing its utmost to create jobs for health professionals and recruiting them until the right numbers and balance of skill mix is available to achieve universal health coverage and the mission of the National Health Strategic Plan (2017 -2021). The Ministry of Health, through this NHRH SP seeks increased investment in the health workforce in order for Zambia to benefit from the multiplier effects that improve economic growth, especially the creation of decent jobs. Close examination of the evidence, by high-level commissions at the United Nations have demonstrated that:

A. Economic growth and development depend on a healthy population.
B. The health sector is a key economic sector and a major source of decent jobs.
C. The government, development partners, cooperating partners and other stakeholders are better served to provide high-level leadership and financial resources to creating health sector jobs to ensure the attainment of SDG 3 (good health and well-being).

STRATEGIC PRIORITY 7	**SCALE-UP HEALTH WORKFORCE RECRUITMENT, EQUITABLE DISTRIBUTION & RETENTION**
Strategic Objective 6: Create, recruit, deploy equitably and retain additional 37,644 health professionals' jobs in approved and funded positions in 7 years.	
Key Result Area 7.1	Strategies
Enhanced recruitment capacity to create additional full-time jobs in health.	1. Lobby Government treasury authority to match employment with health workforce production forecasts so as to support the healthcare delivery system that will sustain universal health coverage. 2. Develop a national plan to produce and retain graduates that is informed by the needs and absorptive capacity of the labour market and aligned with the national health strategic plan. 3. Establish training positions (STP registrar) at designated training sites, and joint academic-professional positions.
Key Result Area 7.2	Strategies
Improved deployment planning in order to promote universal health coverage	1. Strengthen equitable deployment of health workers using enablers, such as, the selection of trainees from, and delivery of training in, rural and underserved areas; financial and non-financial incentives; and regulatory measures or service delivery reorganization. 2. Government, development partners, and other stakeholders collaborate to build and/or facilitate housing, roads, and clean water.
Key Result Area 7.3	Strategies
Strengthened retention and motivation systems	1. Improve performance monitoring for health professionals. 2. Enhance job security, a manageable workload, supportive supervision and organizational management.

	3. Promote continuing education and professional development opportunities, enhanced career development pathways. 4. Strengthen non-financial incentives for retention especially in rural and remote places. 5. Support family and lifestyle incentives, hardship allowances, housing, and education allowances and grants
Key Result Area 7.4	Strategies
Improved work environments	1. Promote occupational health, and safety, fair terms for health workers. 2. Provide adequate facilities and working tools, and measures to improve occupational health and safety and security in the workplace. 3. Strengthen decent work opportunities for work that is productive and delivers a fair income, better prospects for personal development and social integration. 4. Support freedom for people to express their concerns, organize and participate in the decisions that affect their lives, and equality of opportunity and treatment for all women and men free of any type of violence, discrimination and harassment.
Key Result Area 7.5	Strategies
Enhanced mobilization of resources for HRH Strategies.	1. Develop a comprehensive financing strategy for HR planning, development, and management from the general budget, and social health insurance. 2. Coordinate district level mechanisms and budgets for health workforce recruitments by local authority structures. 3. Implement Student Clinical/Professional Placement Contracts for students undertaking clinical/professional placements in health facilities as a cost-sharing mechanism and health financing mechanism. 4. Establish Fund for HRH planning, development, and management strategies.

CHAPTER 4: INSTITUTIONAL ARRANGEMENT & COORDINATION MECHANISM FOR THE HRH STRATEGIC PLAN

INSTITUTIONAL ARRANGEMENT & COORDINATION MECHANISM

The MoH will be the lead partner in the implementation of the National HRH Strategic Plan using consultative and participatory approaches. Other stakeholder partners include government ministries, development and cooperating partners, universities and other training institutions, and academic health complexes (AHCs). Individually and collectively, the partners will ensure full implementation of their specific roles and responsibility.

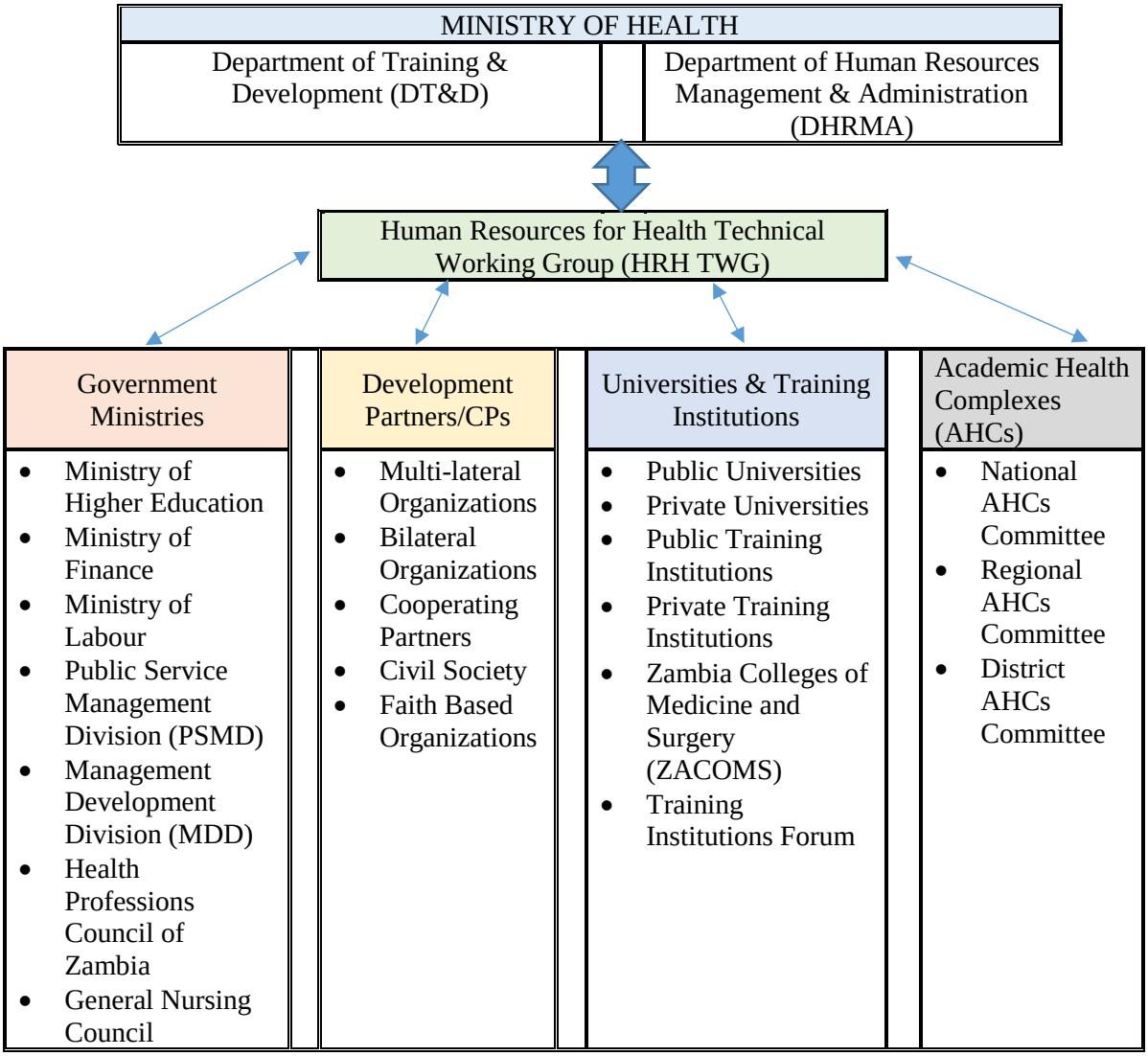


Figure 6: Coordination Mechanism for the National Health Strategic Plan Implementation

The DT&D, as the HRH TWG secretariat, will coordinate and facilitate the implementation of the strategies and activities of the NHRH SP. The HRG TWG co-chaired by Directors of

DT&D and DHRMA will provide financial, technical and logistical support for the implementation and progress monitoring of NHRH SP.

The DHRMA will play a pivotal role in liaising with the Ministry of Finance and the Public Service Management Division to ensure that the treasury authority for funded positions progressively match the requirements of the NHRH SP. Approvals of requisite organization structures necessary to implement the NHRH SP will also be crucial. The inter-ministerial collaboration will be important in order to ensure that the NHRH SP is aligned and consistent with government's policies and vision including the Vision 2030, 7th National Development Plan, National Health Strategic Plan (2017 – 2021), Medium Term Expenditure Frameworks, and ensuing national budgets over the tenure of the NHRH SP. Officers from these ministries will be members of the HRH TWG. The DHRMA will forge stronger relationships with these relevant ministries and units to ensure prioritizing the Health Sector expansion in numbers and distribution of funded positions.

The DT&D, similarly, will be pivotal in establishing the HRH Education and Training Forum which will involve universities, training institutions and the Zambia Colleges of Medicine and Surgery (ZACOMS) regarding matters of pre-service and postgraduate training of health professionals. Additionally, the oversight committees of the Academic Health Complexes (AHCs) at national, regional and district levels will be a crucial inclusion in the implementation process for the NHRH SP. Links with member agencies of the HRH Education and Training Forum will be strengthened through regular and consistent communication and participation.

The Monitoring and evaluation of the plan including progress reports will be the responsibility of the HRH TWG Secretariat, which is, DT&D. The HRH TWG will in turn report to the Policy Meetings and the Annual Consultative Meeting between the Ministry of Health and development partners and civil society.

Table 14: Key Stakeholders Involved in the Implementation of the National Human Resources for Health Strategic Plan (2018 – 2024).

Organization	Role in HRH	NHRH SP Activities
Ministry of Health	• Develop and superintend implementation of HRH policies and strategies. • HRH planning, development and management. • Recruitment, deployment and performance appraisal of staff.	• Coordinating the implementation of HRH policies and strategies. • Coordinate and facilitate the HRH TWG, Policy Forum, and Annual Consultative Meeting with development partners and civil society.
Ministry of Health – Department of Training and Development (DT&D)	• HRH development planning, skill development, capacity development, continuous professional development and specialty training.	• Serve as HRH TWG Secretariat • Coordinate HRH TWG activities • Anchor coordination of the implementation, monitoring, evaluation and reporting on process for the NHRH SP.
Ministry of Health – Department of Human Resources Management and	• Recruitment, deployment, performance appraisal and termination. • Labour relations with employees.	• Liaison and implementing coordination with Ministry of Finance, Ministry of Labour, Public Service Management

Organization	Role in HRH	NHRH SP Activities
Administration (DHRMA)	• Controlling the logistics support and administration of HRH.	Division, Management Development Division.
Human Resources for Health Technical Working Group (HRH TWG)	• Providing technical advice on HRH issues to the MoH and relevant stakeholders	• Coordinating input, resources and effort of different HRH stakeholders in the health sector. • Monitoring and evaluating progress of the NHRH SP.
Government Ministries • Public Service Management Division (PSMD) • Management Development Division (MDD)	• Managing public service general orders and regulations	• Coordinating the progressive recruitment of additional staff to meet requisite staffing norms of the NHRH SP. • Coordinating the approval of requisite additional organizational structures of the NHRH SP.
Government Ministries • Higher Education Ministry (MoHE); • Higher Education Authority (HEA); • Zambia Qualifications Authority (ZAQA)	• Setting standards for education and training. • Accrediting education and training institutions.	• Setting standards for higher education in health. • Strategic partner in institutionalizing the component institutions in national network of Academic Health Complexes in collaboration with MoH
Government Ministry – Finance	• Mobilizing and providing public finance • Setting the budget and economic outlook for the country.	• Increasing the financing of health in the national budget. • Authorizing alternative financing of health through training funds, income generating activities, and the national health insurance.
Government Ministry - Labour	• Regulating the labour relations between employers and employees.	• Facilitating compliance with the labour market regulations and policies.
Government – Regulatory Authorities • Health Professions Council of Zambia • General Nursing Council	• Assessing, accrediting, and recognizing health professionals' education and training institutions. • Registration, licensure, drafting scope of practice, and standards of care.	• Indexing pre-service and postgraduate students. • Updating and maintaining functionality of Human Resources Information System (HRIS). • Accrediting additional training sites for pre-service and postgraduate programmes.
Universities & other Training Institutions	• Pre-service and in-service training	• Increased numbers of health workers. • Improved skills and knowledge amongst health workers

Organization	Role in HRH	NHRH SP Activities
Academic Health Complexes (AHCs)	• Providing healthcare services to the communities and the population they serve. • Training health professionals to serve in the healthcare service delivery institutions for the communities and population they serve.	• Expanding the faculty available for Health professionals' education and training. • Expanding the training sites available for health professionals' education and training. • Linking service delivery and health professionals' education and training.

It is recognized that Zambia's capacity to absorb funds and to put them to work can be severely crippled by the crisis in HRH. An effective institutional arrangement and coordination mechanism can minimize the risk posed insufficient human capacity at all levels to absorb, deploy and use efficiently the financing for scaling up health services delivery offered by Government, development partners, and civil society initiatives.

CHAPTER 5: FINANCING THE HRH STRATEGIC PLAN

COSTING THE HRH STRATEGIC PLAN

Background

The costing of the NHRH SP was achieved through a distinct, context-specific methodology taking into account the availability of cost information for the presumptive activities that would support the key strategies and result areas for all the objectives and strategic priorities. The costing is primarily focused on the activity-based costing approach and is organized around the key activity areas of the strategies but also considered costs around salary and allowances, recruitment, training, capital and development, financial incentives, infrastructure, recurrent/operational support, strengthening of HRH systems and function needs.

Information was collected through interviews with policy makers, programme officers and other relevant stakeholders as well through document analysis. The key sources of information related to the human resources projections from this NHRH SP, salary tables and any relevant documentation on salaries and incentive policies, HRH training programme funding data, and national budget and external aid data. Typically, the costing of the NHRH SP would have involved, a) estimating the numbers of additional staff needed, b) multiplying these numbers by current and future public-sector salaries and allowances, c) calculating the financial needs on the basis of projected available funds and d) reviewing financing options. This is the approach embedded in the WHO Resource Requirement Tool (RRT) that the Global Health Workforce Alliance (GHWA) aided to develop. The information sources include training costs, inclusive of capital and equipment costs, divided into initial training, on-the-job training, postgraduate training and scholarship. The information on salary and incentives are also cardinal. The country's ability to finance the NHRH SP is evaluated by taking into account the country's expected economic growth, the current level of GDP, the share of government resources allocated to health, and the share of health spending devoted to personnel.

Notably, the MoH recognized that that the resultant costing from the method elaborated here was going to be crude on account of the paucity of information about unit costs for the training of different cadres of health professionals, inconsistent incentive policies for workers deployed in rural settings, and disjointed information about funds from development partners that are dedicated to training and salary support. Accordingly, a detailed costing exercise, to serve as an addendum, will be commissioned within the first year of this NHRH SP to help amend and reposition its cost implications.

The preliminary costing was necessitated because costing was part of the more general NHRH SP and not considered a self-standing economic exercise. The NHRH preliminary costing had multiple objectives:

1. To raise awareness, of both government and development partners, on the resources needed for HRH development;
2. To create consensus on the NHRH SP's validity and relevance;
3. To provide long-term vision of the resource needs for the Ministry of Health and GRZ in general.

4. To help clarify the strategic health workforce priorities and strategies together with the attendant financial information;
5. To help secure political commitments required from the central treasury and other health financing options, such as, the National Health Insurance Act; and
6. To help raise funds from the international community.

Table 15. Costing of the NHRH SP using priority areas and strategy key activities

Strategic Priority	Key Activity	Cost (ZMW)
SP 1 - Transform HRH Leadership & Governance	Provincial Capacity Development	1,200,000.00
	Strengthen HRH TWG Capacity	2,600,000.00
	Sub-Total	**3,800,000.00** ***(0.02%)***
SP 2 – Operationalize HRIS	HRIS Personnel Investments	5,040,000.00
	Hardware & Software	1,200,000.00
	Consultative Meetings	240,000.00
	Communication Strategy	1,800,000.00
	Sub-Total	**8,280,000.00** ***(0.04%)***
SP 3 – Transform HPEs' Education and Training by Creating a Nationwide Network of Academic Complexes	AHC Advisory Meetings	280,000.00
	National Health Training Fund	10,000,000.00
	Infrastructure & Equipment	180,000,000.00
	In-Service Support AHCs	32,400,000.00
	Sub-Total	**222,680,000.00** ***(0.96%)***
SP 4 – Establish the Specialty Training Programme	STP Regional Support	6,480,000.00
	STP Trainer Retention	25,200,000.00
	ZACOMS Strategic Support	480,000.00
	ZACOMS Capacity Development	2,000,000.00
	Specialty Skill Transfer Exchanges	4,200,000.00
	STP Faculty Meetings	560,000.00
	Sub-Total	**38,920,000.00** ***(0.17%)***
SP 5 – Accelerate HRH Outputs	Specialists Training	79,695,000.00
	Health Professionals Training	1,505,570,000.00
	Sub-Total	**1,585,265,000.00** ***(7%)***
SP 6 – Harness ICTs in Health Professions Education and Training	Hardware	30,000,000.00
	Internet Services	336,000.00
	IT Technical Personnel	13,440,000.00
	Software & Course Development	5,600,000.00
	Sub-Total	**49,376,000.00** ***(0.21%)***
SP 7 – Scale Up HWF recruitment, equitable distribution and retention.	Wage Bill (37,644)	17,422,245,240.00
	Incentive Package (40%)	3,794,515,200.00
	Sub-Total	**21,216,760,440.00** ***(92%)***
	Grand Total	***23,125,081,440.00***

FINANCING THE HRH STRATEGIC PLAN

Estimated cost of the NHRH SP is almost 23 billion Zambian Kwacha (USD $ 2 Billion) over 7 years, of which 92% is projected to finance the wage bill for additional staff, and another 7%

for HRH training. Although, in relative terms the planned expenditure in other areas of the NHRH SP appears small, a total of 322 million Zambian Kwacha (USD $ 32m) was estimated necessary for all the other structures most of which support human capital development. In addition to costs directly associated with scaling up the HWF between 2018 and 2024, it was estimated that almost 200 million Kwacha (US $20 million) would be necessary for transforming the training and education of health professions, inclusive of infrastructure and equipment. Human resources for health have a 22.6% (USD $3.2 billion) allocation of the total NHSP costing (USD $ 14.3 billion). The health sector was allocated 9% (USD $ 644 million) of the national budget of USD 7.1 billion for 2018.

The expenditure on the NHRH SP will increase almost 12-fold in order to accommodate the training and recruitment targets, increasing steadily over the 7-year period. In all the 12-fold increase in the cost projected over the seven years is primarily due to the plan's stated objectives of rapidly scaling up the HWF (at an average of 5,377 workers per year) while at the same time securing attractive remuneration to workers, particularly those deployed in remote and more disadvantaged areas, and the priority specialties for the attainment of the SDGs.

The NHRH SP will be financed by the national treasury allocation from the national budget, the National Health Insurance Scheme, income-generating activities of the training institutions and support from the development partners and other stakeholders.

CHAPTER 6: MONITORING & EVALUATING THE HRH STATEGIC PLAN

SELECTION OF HRH STRATEGIC PLAN INDICATORS

Monitoring and Evaluation of the strategic plan will be based on a specific set of indicators in the results chain as reflected in the M & E framework below. The indicators relate to the strategic priority areas, objectives and key result areas of the plan. Indicators in the Zambia Demographic Health Surveys (ZDHS), Health Management Information System (HMIS), Human Resources Information System (HRIS) and the National Health Strategic Plan (2017 – 2018) will also be monitored as a way of assessing factors enabling the implementation of the plan. Information collected from the M&E activities of this NHRH SP will be used to track changes in strengthening HWF capacity throughout the seven years and advocating for increased financial commitment to HRH interventions.

Specific tools and reports will also be developed to monitor the implementation of the activities at the different results chain levels specified in this NHRH SP.
The reporting will capture amongst other factors progress related to the following;

- Increased skilled deliveries
- Reduced maternal and child mortality and morbidity
- Combined health workforce density
- HWF to population ratios.
- HWF density by cadre and geographical districtuion.
- Numbers of health professionals trained and types of training.
- Numbers of specialists trained.
- Distribution of staff in public and private sector.
- Numbers of staff in preventive compared to curative services.
- Extent to which the workforce is appropriately managed
- Working conditions at the different levels of the health system
- Matching of skills with tasks and staff with workload
- Changes in retention measures
- Preventable mortality in the population
- Changes in morbidity rates

The Monitoring and Evaluation Framework below displays the set of indicators to be used for tracking implementation of the NRH SP. The indicators have been adapted from the WHO Handbook for Monitoring and Evaluation of Human Resources for Health (HRH), the Human Resources for Health Indicator Compendium (2011) and the recommendations of the HRH TWG M & E sub-committee.

THE MONITORING AND EVALUATION FRAMEWORK

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
		2017	2018	2019	2020	2021	2022	2023	2024		
Impact	*Ensure healthy lives and promote well-being for all by all ages*										
	1. Proportion of births attended by skilled health personnel 2. Reduced maternal and child mortality & morbidity Rates									ZDHS	Assistant Director M & E in Department of Policy & Planning (MoH)
Goal	*Achieve equitable access to cost effective quality health care as close to the family as possible*										
	Combined Health Workforce Density	1.3	1.5	1.6	1.8	1.9	2.0	2.2	2.4	NHSP 2017 – 2012 Review	Assistant Director M & E in Department of Policy & Planning (MoH)
Strategic Objective 1	*To extend HRH planning, development and planning from the perspective of personnel control and provision of HR Services to decision-making frameworks that link the HR function to strategic value.*										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible
Key Result Area 1.1 Improved decisions that impact or are dependent on health workforce decisions	Number of provinces reporting use of and receiving supportive	0	10	10	10	10	10	10	10	T&D Department Annual Report	Director T&D

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
	supervision on of HR Decision Framework										
Key Result Area 1.2 Extended sector planning cycles & performance appraisal by incorporating HR Planning, Development and Management (PDM)	Number of provinces reporting HR PDM incorporation during planning Cycles and Performance Management Package. (PMP)	0	10	10	10	10	10	10	10	1. Planning cycle review reports. 2. Facility strategic reports incorporating HR Planning and Development and Management.	Director Policy and Planning
Key Result Area 1.3 Enhanced stakeholder coordination and HRH TWG leadership in order to improve stakeholder engagement.	Number of quarterly HRH TWG meetings held/Number of Meetings planned. or(frequency of quarterly HRH TWG meetings)	2	4	4	4	4	4	4	4	1. Minutes of the HRH Technical Working Group. 2. schedule showing dates of quarterly HRH TWG meeting	Assistant Director T&D
Key Result Area 1.4 Improved HRH PDM performance in health system	Approval Ratings of HRH PDM practices by MoH National, Provincial & District Staff	Not Known	60%	60%	70%	70%	80%	80%	80%	HRH TWG Survey of Approval Ratings of HRH PDM	Assistant Director M & E in Department of Policy & Planning (MoH)

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Strategic Objective 2	***To strengthen and make functional the Human Resources Information System (HRIS) so that it can provide reliable, up-to-date health workforce information in order to better support policy- and decision- making***										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible
Key Result Area 2.1 Strengthened Human Resources for Health Information System registries to track health workforce stock, education, distribution, flows, demand, capacity and remuneration.	Number of Health Facilities Using HRIS system/total number of Health facilities (%facilities using HRIS)	0	50%	80%	85%	90%	95%	100%	100%	Annual HRIS System Status Report	Chief Human Resources Management Officer - Planning
Key Result Area 2.2 Build a compendium of approved health workforce definitions, cadre classification and indicators for use in Zambia	Percentage completion on the project to develop a compendium of HRH indicators	0%	50%	100%	100%	100%	100%	100%	100%	HRH Forecasting and Modelling Report	Chief Human Resources Management Officer - Planning
Key Result Area 2.3 Enhanced HRH forecasting & modelling capacity at the Ministry of Health	Availability of forecasting and Modelling report compiled by MoH annually.	0%	100%	100%	100%	100%	100%	100%	100%	HRH Forecasting and Modelling Report	Chief Human Resources Management Officer - Planning
Key Result Area 2.4 Improved communication of HRH Status in Zambia	Frequency HRH status Report per year produced quarterly	0	4	4	4	4	4	4	4	HRH Quarterly Status Report	Chief Human Resources Management Officer - Planning

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Key Result Area 2.5 Consolidated health workforce research activities to generate evidence for policy and guidelines.	Number of HRH Research Agreements and programmes between MoH and stakeholders	0	1	2	3	4	5	5	5	Research Policy Briefs	Director T&D
Strategic Objective 3	***To establish a nationwide network of Academic Health Complexes spanning national, regional (provincial) and district training hubs***										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible
Key Result Area 3.1 Improved national coordination and leadership of the health workforce development agenda.											
Key Result Area 3.2 Improved provincial coordination and leadership of the health workforce development agenda.											
Key Result Area 3.3 Strengthened coordination and leadership for AHCs to Improve national coordination and leadership of the health workforce development agenda	Number of Quarterly Meetings of the National AHCs Committee	0	4	4	4	4	4	4	4	Minutes of the National AHCs Committee	Director T&D

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Key Result Area 3.4 Improved Training Infrastructure for AHCs to include library, skills lab, classroom blocks, 150-capacity lecture theatre, and bed student bed capacity.	Number of Regional AHCS built based on AHC Regional Training Hub Prototype	0	0	3	0	6	0	0	8	Physical Inspection Report	Director Physical Infrastructure and Medical Technologies
Key Result Area 3.5 Integrated career paths in clinical and academic medicine to encourage teaching, learning and scholarship as an integral function of the health professions and expanding the faculty.	Proportion of the health workforce who hold academic appointments	0	5%	10%	15%	20%	25%	30%	35%	PSMD Employment Records	Director T&D
Key Result Area 3.6 Strengthened in-service system in order to improve work performance	Proportion of Designated AHCs with functional In-service Unit	0	33.3%	44.4%	55.5%	66.6%	100%	100%	100%	Physical Inspection Report	Chief Human Resources Development Officer
Strategic Objective 4	***To establish the Specialty Training Programme (STP) using competence-based professional training offered to complement university-based postgraduate training..***										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible
Key Result Area 4.1 Improved equitable distribution of specialist throughout the country.	Ratio of Urban to Rural Specialist Distribution	90:10	85:15	80:20	75:25	70:30	70:30	65:35	60:40	Human Resources Information System (HRIS) Report	Chief Human Resources Management Officer - Planning

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Key Result Area 4.2 Enhanced professional supervision in specialty training	Proportion of total STP directors, coordinators, trainers and assessors who are trained as Accredited Educators	10%	50%	70%	80%	85%	87%	89%	90%	Faculty Development Accreditation Register for STP Faculty	Chief Human Resources Development Officer
Key Result Area 4.3 Improved capacity to manage specialist treatment locally in order to reduce expenditure for treatment abroad	proportion of national patient case load referred for specialist care abroad in relation special cases treated in Zambia. (Load treated abroad/load treated home.)									Treatment Abroad Annual Returns	Assistant Director Clinical Care and Diagnostic Services
Key Result Area 4.4 Sustained quality of specialty training programmes	Proportion of Training Sites Accredited for Specialty Training by ECSA Regional Teams / total Number of STP Training Sites in Zambia	80%	90%	100%	100%	100%	100%	100%	100%	ECSA STP Training Site Accreditation Report	Director T&D
Strategic Objective 5	***To train 37,644 health professionals and 759 specialists s in 7 years***										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Key Result Area 5.1 Increased HRH output capacity	Number of HRH produced	6,000	7,000	15,000	17,000	20,000	25,000	33,000	37,644	Human Resources Information Systems (HRIS) Report	Chief Human Resources Management Officer - Planning
Key Result Area 5.2 Increased number of specialists	Number of Zambian Specialists Trained	10	10	150	350	500	659	709	759	Specialist Register at Health Professions Council of Zambia	Chief Human Resources Development Officer
Strategic Objective 6	***To scale up development and access to reliable and cost-effective e-learning for pre-service, in-service and continued professional development programmes.***										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible
Key Result Area 6.1 Enhanced capacity to harness benefits of cost-effective information communication technologies for pre-service, in-service, and continued professional development (CPD) education and training programmes in order to scale up access for students in health professions	Participation Rate in ICT-Based Teaching & Learning Activities Increasing	Not Known	10%	20%	25%	31%	32%	33%	35%	Pre-Service Educational Review Report	Chief Human Resources Development Officer
Key Result Area 6.2 Improved quality frameworks for ICT- based health professions' education and training programmes.	Proportion of ICT-Based Programmes Evaluated Using Approved ICT Courses Standards	0%	30%	40%	50%	60%	70%	100%	100%	ICT Educational Review Report	Chief Human Resources Development Officer

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Key Result Area 6.3 Strengthened capacity to monitor and evaluate ICT-based health professions' education and training programmes.	Proportion of ICT-Based Courses and Programmes Evaluated	0%	30%	40%	50%	60%	70%	100%	100%	ICT Educational Review Report	Chief Human Resources Development Officer
Strategic Objective 7	***Create, recruit, deploy equitably and retain additional 20,000 health professionals in approved and funded positions in 7 years.***										
	Indicator	2017	2018	2019	2020	2021	2022	2023	2024	Verification	Responsible
Key Result Area 7.1 Enhanced recruitment capacity to create additional full-time jobs in health.	Number of Human Resources for Health Recruited by age, sex, type of cadre and geographical location	8,000	2,000	5,000	5,000	5,000	5,000	5,000	5,000	PSMD Funded Positions in the Ministry of Health	Director Human Resources Management and Administration
Key Result Area 7.2 Improved deployment planning in order to promote universal health coverage	Health Workforce Urban to Rural Distribution Ratio by age, sex, type of cadre, and public or private sector	90:10	85:15	80:20	75:25	70:30	70:30	65:35	60:40	Human Resources Information System (HRIS) Report	Chief Human Resources Management Officer - Planning
Key Result Area 7.3 Strengthened retention and motivation systems	Attrition Rate by age, sex, type of cadre, and geographical location	10%	8%	5%	5%	5%	5%	5%	5%	Human Resources Information System (HRIS) Report	Chief Human Resources Management Officer - Planning

Results Chain	Indicator	Baseline	Target							Means of Verification	Responsible Officer
Key Result Area 7.4 Improved work environments	Staff Satisfaction Rate by age, sex, type of cadre and geographical location	Not Known	40%	50%	60%	70%	80%	90%	90%	Health Workforce Satisfaction Survey Report	Chief Human Resources Management Officer - Planning
Key Result Area 7.5 Enhanced mobilization of resources for HRH Strategies	Percentage of Increase in Budget Funding for HRH Strategies	9%	20%	25%	25%	30%	30%	30%	30%	Ministry of Health Annual Budget and Financing Report	Chief Accountant

CHAPTER 7: IMPLEMENTATION FRAMEWORK

		STRATEGIES	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7
	Strategic Priority 1: Transform Human Resources for Health Leadership and Governance. **Objective:** ***To extend HRH planning, development and planning from the perspective of personnel control and provision of HR Services to decision-making frameworks that link the HR function to strategic value.***								
KRAs	**1.1** Improved decisions that impact or are dependent on health workforce decisions.	1. Extend HR practice beyond Personnel management and Provision of HR services to Decision making frameworks.							
		2. Orient HQ staff, Provincial Health Directors, medical superintendents, HR staff and stakeholders to new HR Decision Making Framework							
	1.2 Extended sector planning cycles & performance appraisal by incorporating HR Planning, Development and Management (PDM).	1. Incorporate HR planning, development and management issues into the Annual Planning Cycle and sector performance appraisals.							
		2. Formulate HR PDM policy briefs based on HR Decision Making Framework for planning cycle and sector performance appraisals.							
	1.3 Enhanced stakeholder coordination and HRH TWG leadership in order to improve stakeholder engagement.	1. Strengthen the HRH Technical Working Secretariat in order to facilitate effective and continuous participation of the HRH TWG in key HRH implementation, monitoring and evaluation issues.							
		2. Establish mechanisms to collaborate with civil society, citizens, health workers, health professionals, regulatory bodies and national insurance funds to broaden							

		engagement over HRH policies and strategies.							
		3. Draw up HRH TWG Secretariat 'refurbishment' budget.							
		4. Secure financing for the HRH TWG Secretariat budget.							
		5. Develop the HRH TWG communication strategy.							
	1.4 Improved HRH PDM performance in health system.	6. Decentralize HRH PDM functions to Provinces & Districts							
		7. Train Provincial and District Teams in HRH planning, development, and management using the HR Decision Making Framework.							
	Strategic Priority 2: Operationalize Human Resources for Health Information System (HRIS). **Objective:** ***To strengthen and make functional the Human Resources Information System (HRIS) so that it can provide reliable, up-to-date health workforce information in order to better support policy- and decision- making.***								
KRAs	**2.1** Strengthened Human Resources for Health Information System registries to track health workforce stock, education, distribution,	1. Assess progress of HRIS project being established at HPCZ, GNC and the MoH HQ.							
		2. Commission a consultant to assess and integrate the HRIS information systems platform for use by MoH HR Planning Units							

	flows, demand, capacity and remuneration.	3. Integrate the HRIS for interoperable use at Health Professions Council of Zambia, General Nursing Council of Zambia, and the Ministry of Health Headquarters.							
	2.2 Build a compendium of approved health workforce definitions, cadre classification and indicators for use in Zambia.	4. Establish a Task Force for Health Workforce Definitions and Indicators.							
		5. Compile the Zambia Compendium of approved Health Workforce definitions, cadre classification and indicators for Zambia							
	2.3 Enhanced HRH forecasting & modelling capacity at the Ministry of Health.	6. Create a HRH TWG Sub-committee to support regular HRH forecasting, modelling & optimization studies and technical skill transfer to MoH staff.							
		7. Create database of all training institutions and numbers of students by professional cadre and region and district location.							
		8. Create a database of all bed spaces and staff demands by level of care for health institutions by professional cadre and region and district location.							
	2.4 Improved communication of HRH Status in Zambia.	9. Form a Health Workforce Bulletin and Publish regular reports on the Health Workforce.							
	2.5 Consolidated health workforce research activities to generate evidence for policy and guidelines.	10. Create a Health Workforce Research Forum							
		11. Commission health workforce research							
		12. Organize the annual Health Workforce Research Forum.							
	Strategic Priority 3: Transform health professionals' education and training by creating a nationwide network of academic health complexes (AHCs).								

	Objective: ***To establish a nationwide network of Academic Health Complexes spanning national, regional (provincial) and district training hubs.***								
KRAs	**3.1** Improved national coordination and leadership of the health workforce development agenda.	1. Formalize the Ministry of Higher Education declaration of Levy Mwanawasa Medical University as a public university with special authority to be administered by Ministry of Health in line with the Presidential Assurance.							
		2. Establish a Task Force to prepare the LMMU and AHCs operational frameworks.							
		3. Establish and administer a National Health Training Fund (NHTF) financed outside the national budgetary allocation to the Ministry of Health as a financing framework for AHCs.							
		4. Develop and implement national training plan health professionals for the seven-year period.							
	3.2 Improved provincial coordination and leadership of the health workforce development agenda.	5. Establish a Regional Training Hub of the LMMU in all 10 provinces of Zambia							
		6. Integrate existing Training Institutions and a selected health facility into identifiable AHCs.							
		7. Develop operational frameworks for regional training hubs.							
	3.3 Strengthened coordination and leadership for AHCs.	8. Establish AHC National Advisory Committee							
		9. Develop national structures for the oversight, planning and governance of Academic Health Complexes.							
		10. Develop an accreditation framework for AHCs.							

	3.4 Improved Training Infrastructure for AHCs to include library, skills lab, classroom blocks, 150-capacity lecture theatre, and bed student bed capacity.	11. Develop prototype design for regional AHCs training centres.							
		12. Secure financing for construction AHCs training infrastructure.							
		13. Construct purpose-built training infrastructure annexes to the health service delivery facility							
	3.5 Integrated career paths in clinical and academic medicine to encourage teaching, learning and scholarship as an integral function of the health professions and expanding the faculty.	14. Establish a joint clinical and academic appointment and promotion framework that allow for parallel tracks and recognised career pathways.							
		15. Develop a joint clinical and academic appointment/promotion protocol.							
		16. Obtain approval from Public Service Management Division (PSMD).							
	3.6 Strengthened in-service system in order to improve work performance.	17. Revive and establish in-service units in Academic Health Complexes (AHCs).							
		18. Implement continuous professional development programes in Academic Health Complexes (AHCs).							
		19. Refocus attention on skill development and improved job performance across national, regional and district AHCs.							
		20. Establish Faculty Development programmes to help prepare staff for their roles as educators, clinicians, researchers and administrators.							
	Strategic Priority 4: Establish the Specialty Training Programme (STP).								

	Objective: ***To establish the specialty training programme (STP) using competence-based professional training to complement university-based postgraduate training.***								
KRAs	**4.1** Improved equitable distribution of specialists throughout the country.	1. Undertake a gap analysis for requirements for STP training accreditation.							
		2. Identify Provincial STP training hubs in each province.							
		3. Systematically fill the gap to achieve STP site accreditation.							
		4. Establish STP training sites in all the 10 provinces of Zambia							
	4.2 Enhanced professional supervision in specialty training.	5. Provide technical support for development of the ZACOMS Strategic Plan.							
		6. Strengthen the capacity of the Zambia Colleges of Medicine and Surgery (ZACOMS).							
		7. Conduct STP Technical Support Visits to each province/training sites.							
		8. Sign MoUs for strategic partnerships with regional and international specialist training agencies.							
		9. Conduct, in liaison with strategic partners, accreditation of MoH staff as clinical educators and examiners.							
		10. Facilitate increased leadership by communities of practice in professional matters.							

	4.3 Improved capacity to manage specialized treatment locally in order to increase accessibility to specialist care and reduce expenditure for treatment abroad.	11. Map international specialists' teams that have treatment periods in Zambia, & destinations abroad who receive patients from Zambia.							
		12. Partner international specialists' teams with Local STP Specialists for treatment, mentorship and skills development.							
	4.4 Sustained quality of specialty training programmes.	13. Mainstream quality improvement and assessment in accredited training facilities.							
		14. Develop STP Standards and Guidelines.							
		15. Coordinate with Ministry of Health and cooperating partners to support hospital modernization programmes at STP training sites.							
		16. Facilitate internal and external quality assurance processes between STP training sites.							
	Strategic Priority 5: Accelerate human resources for health (HRH) outputs. **Objective:** ***To train 37,644 health professionals and 759 specialists in 7years.***								
KRAs	**5.1** Increased HRH output capacity.	1. Use Levy Mwanawasa Medical University for large National Intakes for core training.							
		2. Distribute the National Intakes to the regions for clinical attachments.							
		3. Use the established national framework of training system to coordinate and implement national targets of HRH outputs.							

		4. Increase intakes at national and regional training sites.							
		5. Increase the number of HRH programmes.							
		6. Increase the number of institutions offering blended learning platforms.							
	5.2 Increased number of specialists.	7. Promote establishment and accreditation of STP training sites in every province of the country.							
		8. Increase intakes at established STP training sites.							
		9. Increase the number of STP programmes.							
									.
	Strategic Priority 6: Harness information communication technologies in health professionals' education and training. **Objective:** ***To scale up development and access to reliable and cost-effective e-Learning for pre-service, in-service and continued professional development programmes.***							
KRAs	**6.1** Enhanced capacity to harness benefits of cost-effective information communication technologies for pre-service, in-service and continued professional development (CPD) education and training programmes in order to scale up access for	1. Develop a platform for pre-service, in-service, and CPD e-learning courses.							
		2. Conduct ICT Training for e-learning for health professionals' educators and students.							

	students in health professions.	3. Commission content experts to develop homegrown pre-service e-courses.							
	6.2 Improved quality frameworks for ICT-based health professionals' education and training programmes.	4. Develop standards, accreditation procedures and evaluation criteria for training delivered through e-learning.							
		5. Implement accreditation procedures and evaluation activities to certify the quality of training delivered through e-learning.							
	6.3 Strengthened capacity to monitor and evaluate ICT-based health professionals' education and training programmes.	1. Establish an inventory of e-learning and ICT-based programmes being delivered in Zambia.							
		2. Evaluate impact of e-learning and ICT-based programmes regularly.							
	Strategic Priority 7: Scale up health workforce recruitment, equitable distribution and retention. **Objective:** ***Create, recruit, deploy equitably and retain additional 37,644 health professionals in approved and funded positions in 7 years***.								
KRAs	**7.1** Enhanced recruitment capacity to create additional full-time jobs in health.	3. Match Government treasury authority for employment with health workforce production forecasts required to support the healthcare delivery system that will sustain universal health coverage.							

		4. Develop a national plan to produce and retain graduates that is informed by the needs and absorptive capacity of the labour market, and aligned with the national health strategic plan.							
		5. Establish training positions (STP registrar) at designated training sites, and joint academic-professional positions.							
	7.2 Improved deployment planning in order to promote universal health coverage.	**8.** Strengthen equitable deployment of health workers using enablers, such as, the selection of trainees from, and delivery of training in, rural and underserved areas; financial and non-financial incentives; and regulatory measures or service delivery reorganization.							
	7.3 Strengthened retention and motivation systems.	9. Improve performance monitoring for health professionals.							
		10. Enhance job security, a manageable workload, supportive supervision and organizational management, continuing education and professional development opportunities, enhanced career development pathways, family and lifestyle incentives, hardship allowances, housing and education allowances and grants							
	7.4 Improved work environments.	11. Promote occupational health, and safety, fair terms for health workers.							

		12. Provide adequate facilities and working tools, and measures to improve occupational health and safety and security in the workplace.							
		13. Strengthen decent work opportunities for work that is productive and delivers a fair income, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives, and equality of opportunity and treatment for all women and men free of any type of violence, discrimination and harassment.							
	7.5 Enhanced mobilization of resources for HRH Strategies.	14. Develop a comprehensive financing strategy for HR planning, development, and management from the general budget, and social health insurance.							
		15. Coordinate district level mechanisms and budgets for health workforce recruitments by local authority structures.							
		16. Implement Student Clinical/Professional Placement Contracts for students undertaking clinical/professional placements in health facilities as a cost-sharing mechanism and health financing mechanism.							
		17. Establish Fund for HRH planning, development, and management strategies.							

CONCLUSION

This NHRH SP is expected to alleviate the HRH crisis in Zambia, contribute to improving health service delivery in the Country and accelerate progress towards the attainment of the health SDGs and other national and regional health goals and targets. The NHRH SP sets the premise and priority areas for interventions through:

1. Providing a comprehensive institutional context for the planning, coordination and implementation of the national NHRH SP.
2. Articulating national NHRH SP priorities, objectives and key result areas that stakeholders should work towards, based on their respective mandates, resources and comparative advantages.
3. Articulating an agreed framework for the implementation of NHRH SP in partnership with stakeholders.
4. Setting the foundation for developing the next National Training Operation Plan (NTOP)
5. Providing a transparent policy framework to form the basis of agreements with development partners and other stakeholders on their technical and financial support and the management and coordination of HWF support.

This NHRH SP further supports initiatives to:

A. Transform Human Resources for Health Leadership and Governance.
B. Operationalize Human Resources for Health Information System (HRIS).
C. Transform health professionals' education and training by creating a nationwide network of academic health complexes (AHCs).
D. Establish the Specialty Training Programme (STP).
E. Accelerate human resources for health (HRH) outputs.
F. Harness information communication technologies in health professionals' education and training.
G. Scale up health workforce recruitment, equitable distribution and retention.

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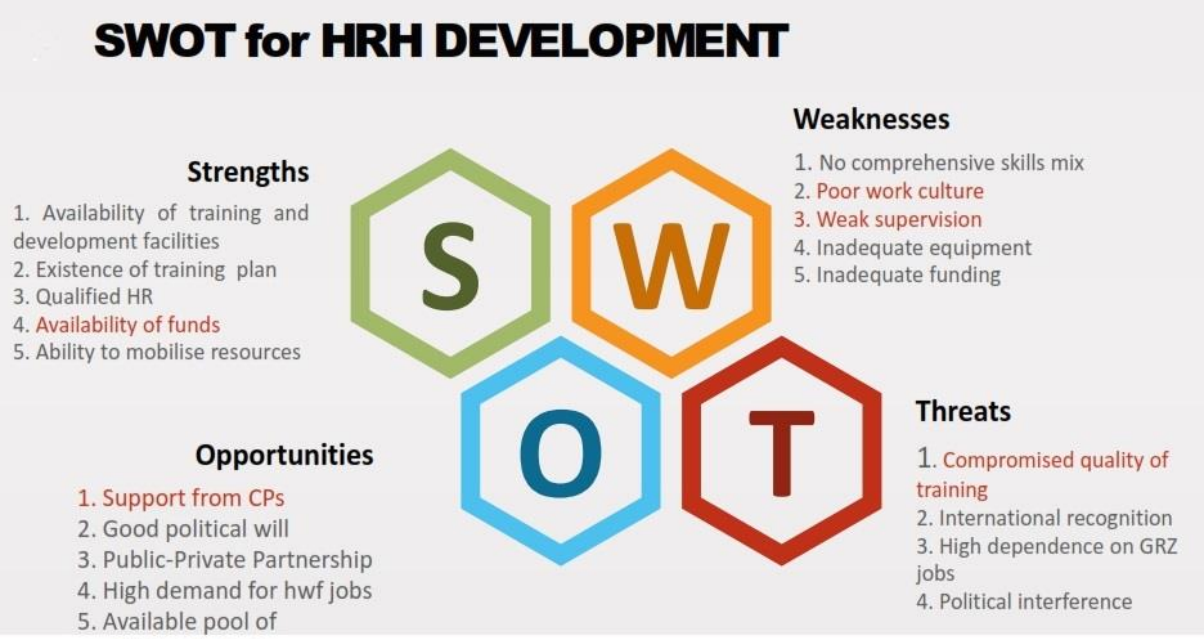
APPENDIX 1

STRENGTHS WEAKNESSES OPPORTUNITIES & THREATS ANALYSIS AND CRITICAL SUCCESS FACTORS

N.B – the SWOT analyses from the cluster workshops were collectively reviewed and the most representative view are depicted in the SWOT diagrams below. The findings of the SWOT informed the development or revision of the strategic priorities, objectives and strategies.

HRH Planning: the process of generating information about the profiles of existing health workforce students, unemployed and employed health professionals in order to estimate the requirements for effective and efficient delivery of health services.

HRH Development: the process of building capacity of the future and existing hwf along the continuum of education including; pre-service education, skill development, continuous professional development, and specialty training programmes in order to enhance their performance in delivery of health services.

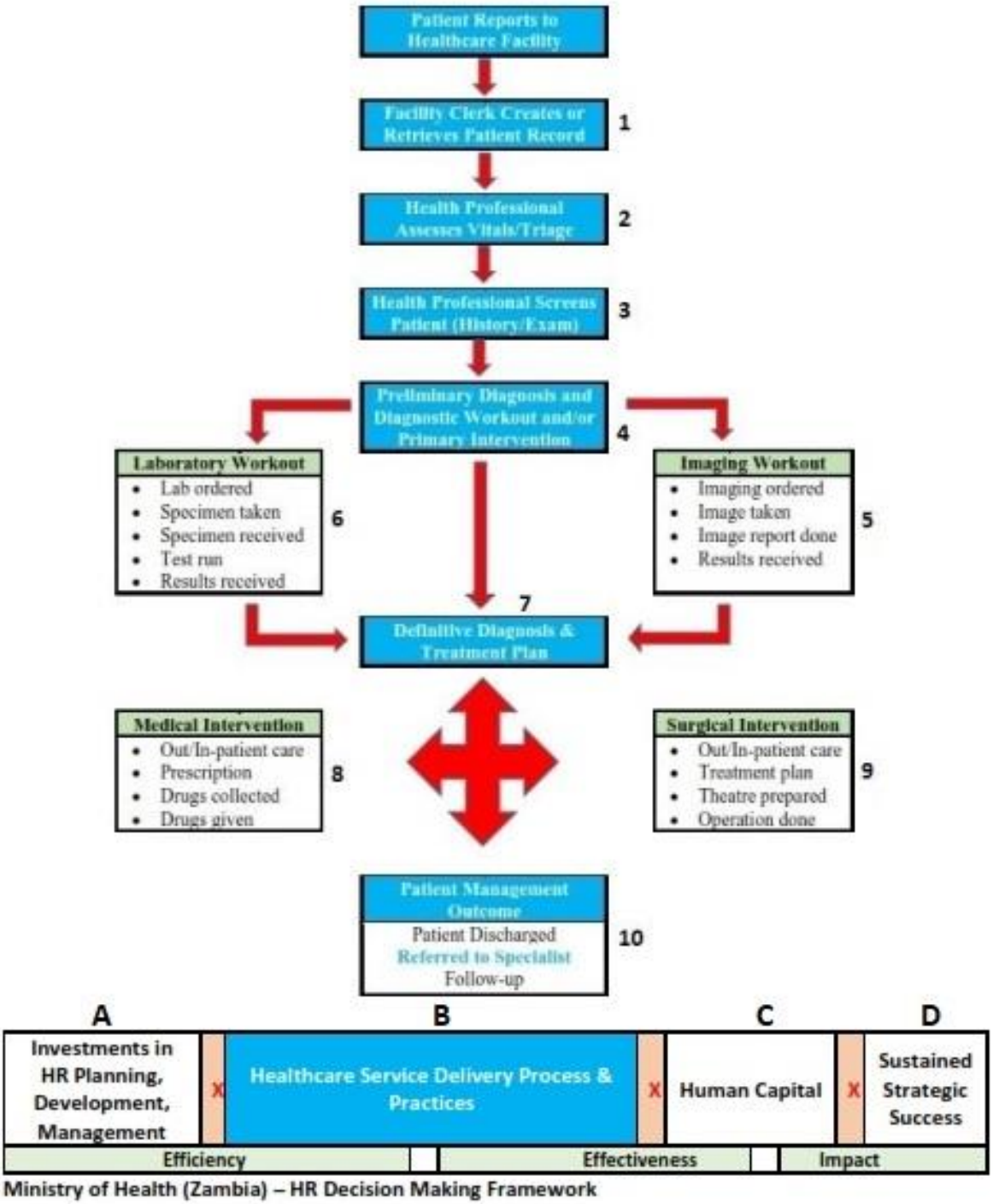


HRH Management: the process of recruiting, deploying, retaining, and managing the health workforce required for effective and efficient delivery of health services.

Critical Success Factors: Those strengths, weaknesses, opportunities and threats that must be recognized as priority from among the lists generated, which would critically impact the success of strategies required to address the situation (shown in red).

APPENDIX 2

MINISTRY OF HEALTH HR DECISION MAKING FRAMEWORK



Ministry of Health (Zambia) – HR Decision Making Framework

The Framework is based on the works of Bourdreau, J.W. and Ramstad, P.M (2007).

The HR Decision Making Framework categorizes four independent segments, that is, A) Investments in HR planning, development and management, B) Healthcare service delivery processes and practices, C) human capital as the health workforce, and D) Sustainable Strategic Success. In the Framework, the healthcare service delivery processes and practices segment magnified with a pictorial workflow process prevalent in most health facilities in Zambia.

It is critical for leaders to be comprehensively reminded of or educated about the healthcare service delivery workflow because it represents the steps of how healthcare services are frequently performed by different staff members so that the detailed understanding can aid their decisions about how to increase efficiency, effectiveness, reduce errors, and improve quality and outcomes. Such an understanding can help leaders connect their decisions on HR planning, development and management to the ultimate goal of the service delivery and national health strategic plans. Understanding the healthcare service delivery workflow, the impact of the number and kind of health workforce, and the cost of employing them should lead to better decisions of HR priorities and impact of any attendant decisions.

The horizontal logic structure of the Framework connects investments made in HR planning, development and management to changes in the healthcare service delivery process and practices and, in turn, to those changes in human capital stock and finally, how that can impact strategic success.
The Framework identifies 'anchor points' between the four segments, that is, efficiency, effectiveness, and impact, respectively. The anchor points are interpreted as follows:

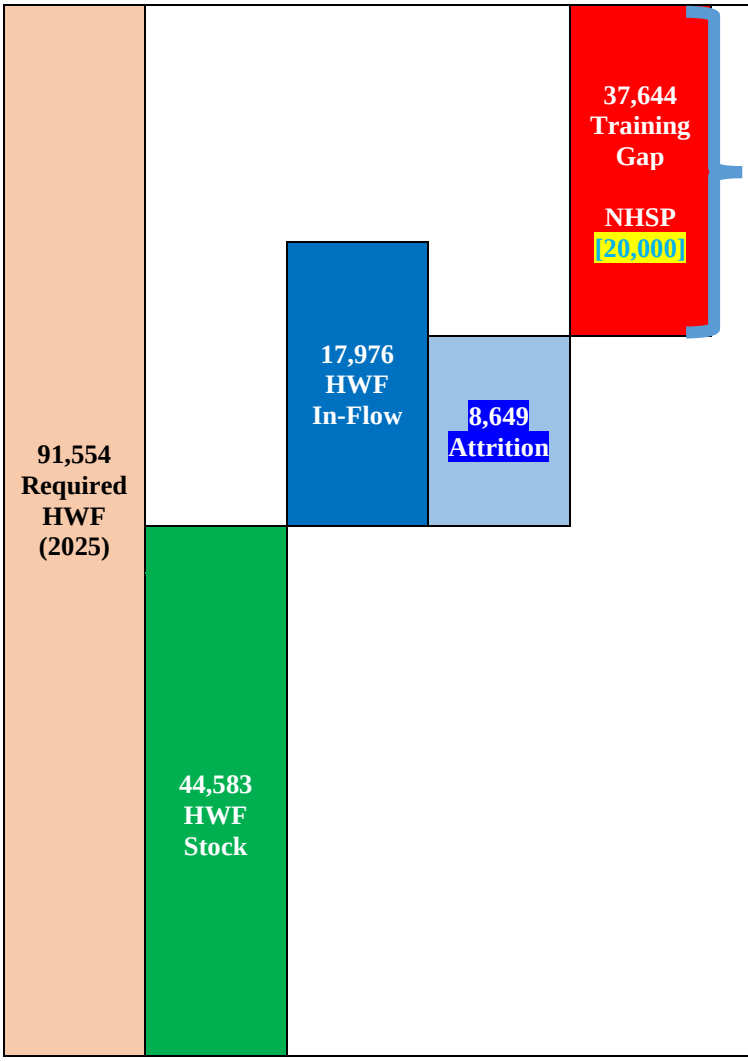
1. Efficiency represents influence and the relationship between investments (A) and process and practices in healthcare service delivery, pinpointing where specific resource investments must improve the sets of process and practices.
2. Effectiveness represents influence and relationship between process and practices (B) and human capital (C).
3. Impact represents influence and relationship between human capital (C) and sustainable strategic success (D), identifying the relationship between improvements in the HR investment, process and practices, human capital and sustainable strategic success.

All three anchor points are necessary and work together, and they must be considered when making health workforce and service delivery decisions although improvements in any one of them will not necessarily lead to improvement in the others. As such, decision alignment (understanding where differences in the quality or quantity of the workforce/process and practices will have the greatest strategic effect), execution (knowing what decisions are most pivotal to enhancing the success of the health sector's mission), and agility (having a consistent logic that spans situations and identifies where changes must occur) are important principles for HR decision making.

The Framework can provide logical structure to HR data collection and analysis. While, ordinarily, leaders usually spread investment equally across the entire workforce and process and practices, for the sake of fairness, the Framework requires leaders to investment optimally. Optimal investment takes into account varying impact of small changes in the number and placement of different cadres of the health workforce or processes and practices. Accordingly, optimizing requires that decision makers know the potential effects of increasing or decreasing each kind and/or amount of the workforce cadre or process and practices on strategic value.

APPENDIX 3

HRH NEED ANALYSIS FOR 2025



Doctors	4,150	2,205
Dental Surgeons	500	266
Medical Licentiates	380	202
Clinical Officers	3,620	1,923
Mid-Level Anaesthetists	900	478
Registered Midwives	4,800	2,550
Registered Nurses	10,564	5,612
R/Public Health Nurses	740	393
Environmental Health	1,129	600
Community Health	3,875	2,059
Nutrition	1,155	614
Pharmaceutical Staff	2,950	1,567
Radiography	1,090	579
Lab Services	1,505	800
Physiotherapy	286	152
Total	37,644	20,000
Reference	NHRH (2025)	NHSP (2021)

APPENDIX 4

PRIORITY LOCAL OUTPUT TARGETS FOR HEALTH PROFESSIONS

Category	Baseline	2018	2019	2020	2021	2022	2023	2024	Total
Medical Doctors									
Specialist Doctors	259	15	15	250	**500**	200	150	141	**941**
Generalist Doctors	4,362	350	660	895	**1,705**				**3,209**
Dental Surgeons	201				**266**				**500**
Medical Licentiates	216				**202**				**380**
Clinical Officers	5,014				**1,923**				**3,620**
Mid-Level Anaesthetists	125	64	165	249	**478**				**900**
Registered Midwives	1337				**2,550**				**4,800**
Registered Nurses	11,386				**5,612**				**10,564**
R/Public Health Nurses	01				**393**				**740**
Environmental Health	2,813				**600**				**1,129**
Community Health	1,264				**2,059**				**3,875**
Nutrition	389				**614**				**1,155**
Pharmaceutical Staff	1,609				**1,567**				**2,950**
Radiography	951				**579**				**1,090**
Lab Services	1,818				**800**				**1,505**
Physiotherapy	932				**152**				**286**
					20,000				**37,644**

APPENDIX 5

HEALTH PROFESSIONS COUNCIL OF ZAMBIA & GENERAL NURSING COUNCIL OF ZAMBIA REGISTERS AND STUDENT INDEXING RECORDS

	HEALTH PROFESSIONS COUNCIL OF ZAMBIA REGISTERS (2017)		GENERAL NURSING COUNCIL OF ZAMBIA REGISTERS (2017)		
	Register Name	**No**		**Active No.**	**Ever Registered**
1.	MEDICAL DOCTORS	4362	ENROLLED NURSE	7,910	13,980
2.	DENTAL SURGEONS	201	DIRECT ENTRY MIDWIFE	596	886
3.	PHARMACISTS	858	REGISTERED NURSE	11,307	15,030
4.	ENVIRONMENTAL HEALTH OFFICERS	267	ENROLLED MIDWIFERY	348	1,973
5.	ENVIRONMENTAL HEALTH TECHNOLOGISTS	2546	ENROLLED NURSE MIDWIFE	22	48
6.	PHYSIOTHERAPISTS	248	ENROLLED OPERATING THEATRE NURSE	09	97
7.	OCCUPATIONAL THERAPISTS	4	ENROLLED PSYCHIATRIC NURSE	79	216
8.	RADIOGRAPHY TECHNOLOGISTS	940	HIV NURSE PRACTITIONER	16	109
9.	MEDICAL LABORATORY TECHNOLOGISTS	1457	OPHTHALMIC NURSING	03	40
10.	MEDICAL LABORATORY TECHNICIANS	361	PUBLIC HEALTH NURSING	01	23
11.	DENTAL TECHNOLOGISTS	57	REGISTERED CRITCAL CARE NURSING	19	121
12.	CLINICAL OFFICERS GENERAL	5014	REGISTERED CLINICAL INSTRUCTOR NURSING	05	40
13.	DENTAL THERAPISTS	441	REGISTERED MIDWIFERY	323	2,307
14.	OPTOMETRISTS	122	REGISTERED MENTAL HEALTH NURSING	239	386
15.	X-RAY ASSISTANTS	2	REGISTERED NURSE MIDWIFE	418	494
16.	PHARMACY TECHNOLOGISTS	1521	REGISTERED THEATRE NURSING	56	474
17.	MEDICAL LICENTIATES	216	REGISTERED PAEDIATRIC NURSING	09	103
18.	ORTHOPAEDIC TECHNOLOGISTS	10	DIPLOMA IN NURSING EDUCATION	07	72
19.	SPECIALISTS	27	BACHELOR OF SCIENCE IN NURSING	176	799
20.	EMERGENCY CARE OFFICERS	50	MASTERS OF SCIENCE IN NURSING	19	79
21.	BIOMEDICAL SCIENTIFIC OFFICERS	434	MASTERS IN PUBLIC HEALTH	04	8
22.	DENTAL HYGIENISTS	3	DOCTORATE (PHD)	01	3
23.	PHAMACOLOGISTS	1	**TOTAL**	**21,667**	**37,299**
24.	OSTEOPATHISTS	8			
25.	PODIATRISTS	0			
26.	AUDIOLOGISTS	2			
27.	PHYSIOTHERAPY TECHNOLOGISTS	684			
28.	RADIATION TECHNOLOGISTS	1			
29.	RADIATION THERAPISTS	6			
30.	MEDICAL PHYSICISTS	4			

	HEALTH PROFESSIONS COUNCIL OF ZAMBIA REGISTERS (2017)		GENERAL NURSING COUNCIL OF ZAMBIA REGISTERS (2017)		
31.	COMMUNITY ORAL HEALTH EDUCATORS	1			
32.	ADVANCED PARAMEDICALS	151			
33.	NUTRITION TECHNOLOGIST	526			
34.	OTHORTISTS/PROSTHETISTS	6			
35.	CLINICAL PHYCOLOGISTS	5			
36.	PHARMACY DISPENSERS	29			
37.	COMMUNITY HEALTH ASSISTANTS	1592			
38.	DENTAL LABORATORY OFFICERS	0			
39.	RADIOGRAPHERS	11			
40.	DENTAL ASSISTANTS	42			
41.	ENVIRONMENTAL HEALTH OFFICERS	337			
42.	SONOGRAPHERS	5			
43.	SONOGRAPHY TECHNOLOGISTS	0			
44.	PUBLIC HEALTH SCIENTISTS	13			
45.	ULTRASOUND TECHNOLOGIST	2			
46.	LABORATORY SCIENTIST	79			
47.	SCIENCE LABORATORY TECHNICIAN	4			
48.	SCIENCE LABORATORY TECHNOLOGIST	262			
49.	PUBLIC HEALTH TECHNOLOGISTS	0			
50	PUBLIC HEALTH TECHNICIAN - CERTIFICATE	0			
51.	NUTRITIONISTS/DIETICIANS	4			
52.	**TOTAL**	**22,916**			

	HEALTH PROFESSIONS COUNCIL OF ZAMBIA REGISTERS (2017)		GENERAL NURSING COUNCIL OF ZAMBIA REGISTERS (2017)	
	STUDENTS INDEXED 2017		**STUDENTS ENROLLED 2016/17**	
1.	DIPLOMA IN CLINICAL MEDICAL SCIENCES	2,665	ENROLLED NURSE	482
2.	DIPLOMA IN BIOMEDICAL SCIENCES	594	DIRECT ENTRY MIDWIFE	185
3.	DIPLOMA IN ENVIRONMENTAL HEALTH	540	REGISTERED NURSE	11,626
4.	BACHELOR OF MEDICINE AND BACHELOR OF SURGERY	350	BACHELOR OF SCIENCE IN NURSING	176
5.	DIPLOMA IN PHARMACY	230		**12,469**
6.	BACHELOR OF SCIENCE IN ENVIRONMENTAL HEALTH	227		
7.	BACHELOR OF PHARMACY	198		
8.	BACHELOR IN PUBLIC HEALTH	159		
9.	DIPLOMA IN RADIOGRAPHY	133		
10.	DIPLOMA IN PHYSIOTHERAPY	103		
11.	DIPLOMA IN FOOD AND NUTRITION	67		
12.	BACHELOR OF SCIENCE IN PHYSIOTHERAPY	56		
13.	BACHELOR OF SCIENCE IN RADIOGRAPHY	52		
14.	DIPLOMA IN DENTAL THERAPY	37		
15.	DIPLOMA IN CLINICAL MEDICINE-PSYCHIATRY	32		
16.	BACHELOR OF CLINICAL SCIENCES	23		
17.	DIPLOMA IN RADITHERAPY	20		
18.	DIPLOMA IN OPTOMETRY	18		

19.	DIPLOMA IN LABORATORY SCIENCE TECHNOLOGY	2		
20.	DIPLOMA IN DENTAL TECHNOLOGY	1		
	TOTAL	**5,507**		

District	No. of Health Facilities by levels of care								No. of Health Facilities by ownership			
	TLHs	SLHs	FLHs	Clinics	UHCs	RHCs	HPs	Total HFs	GRZ HFs	Mission HFs	Private HFs	Total HFs
Central	0	2	8	6	37	108	105	**266**	233	6	25	**266**
Copperbelt	3	9	13	11	216	56	130	**438**	272	7	159	**438**
Eastern	0	1	9	0	11	163	135	**320**	297	11	12	**320**
Luapula	0	2	8	0	7	135	65	**217**	207	5	5	**217**
Lusaka	6	4	19	0	279	66	99	**473**	217	3	253	**473**
Muchinga	0	4	2	0	10	70	53	**139**	126	7	6	**139**
Northern	0	3	5	0	13	94	69	**184**	174	5	5	**184**
North-Western	0	2	11	0	12	155	68	**248**	215	11	31	**248**
Southern	1	5	9	0	58	169	106	**348**	301	5	42	**348**
Western	0	2	13	0	16	145	123	**289**	275	8	6	**289**
Zambia	**10**	**34**	**97**	**17**	**659**	**1,161**	**953**	**2,922**	**2,317**	**68**	**544**	**2,922**

APPENDIX 6

List of Participants at HRH TWG and Cluster Meetings for the NHRH SP

HRH TWG & NATIONAL WORKSHOP PARTICIPATNS

#	NAME	ORGANISATION
1.	ROSEMARY R. MWANZA	PHO CENTRAL
2	DR KELVIN M. ZIMBA	ZMA
3.	BEATRICE MUSAMBA	CHILD FUND
4.	SONGISO HAMUSONDE	CMMB
5.	DR BWALYA PETER	PHO LUAPULA
6.	DR AARON SHIBEMBA	PATH
7.	DR MWANSA J. KAUNDA	ADCH/MOH
8.	DR JOHN MUSUKU	UTH
9.	DR KABALO ABEL	EPHO/MOH
10.	DR ALISON CHIBWE	MHO NORTHERN
11.	PROF. JAMES CHIPETA	UNZA
12.	DR ALEX MAKUPE	NDOLA HOSP
13.	MR MANASE CHIPAKO	CHAZ
14.	WALEY B SILOMBA	USAID ETB
15.	DR MAUREEN CHITEMBELE	WNH-UTH
16.	KUNDA KAPEMBWA	WNH-UTH
17.	DR LEVIS BANDA	CDH-UTH
18.	SULA NAKANYIKA MAMBA	BRITE
19.	ANTHONY MAKOKA	BRITE-SBH
20.	HILDA SHAKWELE	CHA
21.	CAROL MILAMBO MUFANA	CHA
22.	GRACE CHIPALO MUTATI	EYE-UTH
23.	LASTON CHIKOYA	LMUTH
24.	SITALI IKACHANA JONATHAN	UTH/ZACOMS
25.	MUSONDA DENNIS	PATH-UTH
26.	CLARENCE CHILUBA	UTH-ADULT
27.	ERIC N CHIYOMBWE	GHC
28.	MUSA FUNYIKA	NDOLA HOSP
29.	ROY CHIHINGA	MOH
30.	SYRID WOLTER	SOLIDERMED
31.	ANNEL C. BOWA	CCHS
32.	KAMWANGA M CHIPAKO	PHO LUSAKA
33.	SERGE KATONGO	MOH
34.	ANNA CHIRWA	JHPIEGO
35.	DR UTA FROSCHL	BEIT CURE
36.	DR N SUKWA	ZMA- PH
37.	DR FOSTER MUNSANJE	EVELYNHONE
38.	DR NAMUZIYA	RDAZ
39.	DR ISAAC SAKALA	RDAZ

40.	DR ALICE TEMBO	NRDC
41.	FRANCIS KALUSA	SIGHTSAVERS
42.	DR HAZEL MUMPHANSHYA	UTH-ZACOMS
43.	EVELYN MULEYA	MOH
44.	FRANCINE MUBANGA	AMREF
45.	MASAUTSO PHIRI	META
46.	ZINDABA NGWENYAMA	META
47.	DR MUPETA SONGWE	UTH
48.	MULENGA JOHN	UTH
49.	CHIMWASU KASOCHI	UTH
50.	DR FRED MAATE	UTH
51.	EMILY MOONZE	USAID-SBHI
52.	NELIA LANGA MULAMBYA	ZNPH
53.	EDWARD TONKIN	THET
54.	DR MICHEAL MBAMBIKO	ZACOMS
55.	GELARD H MUCHE	CIDRZ
56.	JAN WILLEM VANDEN BROEK	UNDP
57.	DR MANY MATHEW	UTH
58.	DR CONNIE OSBORNE	AMREF
59.	MIJAJATI AARON	HPCZ
60.	DR GARDNER SYAKANTU	LEVY MWANAWASA
61.	DR LAWRENCE PHIRI	N.WESTERN
62.	DR CHANSA ABIDAN	ZMA
63.	LIYOKA LIYOKA	META ZAMBIA
64.	DR AGATHA LLOYD	AMREF
65.	DR MUYANGANA	MOH
66.	DR MAX BWEUPE	MOH
67.	DR JELITA CHINYONGA	SOUTHERN PHO
68.	DR FRANCIS LIYWALI	WESTERN PHO
69.	MRS CHOOLWE JACOBS	ACHEST/UNZA
70.	ELIJAH SINYIZA	USAID SBH
71.	EUNICE SINYEMU	THET
72.	MESA JAMES	GNC
73.	DR V.K. PANDEY	ZPA
74.	DR THERESA NKOLE	ZAGO
75.	JOSEPH MUSOWOYA	KTH
76.	DR CLEMENCE MARIMO	CUZ
77.	MZAZA NTHELE	MOH
78.	DR SIALUBANJE	CCHS
79.	DR V SUNKUTU SICHIZYA	UTH
80.	MOSES CHIRWA	CCH-MOH
81.	CHULU TITAMENJI	SIGHTSAVERS
82.	LASTINA LWATULA	JHPIEGO
83.	EMMANUEL MAKASA	MOH/GRZ
84.	ELIAS SIAMATANGA	MOH
85.	DR KAKUNGU SIMPUNGWE	LUSAKA PHO
86.	PILINGANA PORTIPHER	CCBS
87.	MICHEAL NGULUTA	NCBS
88.	DR KACHINGA SICHIZYA	UTH

89.	ELIS MWANZA	MOH
90.	JANE BANDA	MOH
91.	SITALI NYAMBE	MOH

CLUSTER A (NORTHERN, LUAPULA & MUCHINGA PROVINCES)

	Name	Province
1	Chileka Taimolo	Muchinga
2	Tembo Clare	HQ
3	Emmauel Mwambazi	Luapula
4	Dr. Kelvin Sinkala	Luapula
5	Dr. Nchimunya Machila	Muchinga
6	Dr. Charles Chungu	Muchinga
7	Dr. Chisanga Chelu	Luapula
8	Ms. Clara Kanyemba	HQ
9	Mr. Benjamin Nsenje	HQ
10	Dr. Christopher Kombe	Northern
11	Ms. Victoria Nganga	Northern
12	Dr. B. Lushiku	Northern
13	Dr. J. Mwenda	Muchinga
14	Dr. Nero Chilembo	Muchinga
15	Prof. Sekelani S. Banda	HQ
16	Ms. Mazuba Mukubani	HQ
17	Ms. Elis Mwanza	HQ

CLUSTER B (CENTRAL, COPPERBELT & NORTH-WESTERN PROVINCES)

	Name	Province
1	Prof. Sekelani Banda	HQ
2	Dr. Isaac Banda	Central
3	Mr. Isaac Simwanza	Central
4	Dr. George Chipulu	Central
5	Mr. Elson Muulu	Copperbelt
6	Ms. Grace Shiku	Copperbelt
7	Ms. Mavis M. Chingezhi	Copperbelt
8	Ms. Evelyn Muleya	HQ
9	Ms. Ndubu Milapo	HQ
10	Mr. Roy Chihinga	HQ
11	Mr. Benjamin Nsenje	HQ
12	Ms. Mazuba Mukubani	HQ
13	Dr. Kennedy Gondwe	North-Western
14	Dr. Charles Msiska	Central
15	Dr. M. J. Odimba	Copperbelt
16	Dr. Jonathan Ncheengamwa	North-Western
17	Ms. Kaleji Ndonji	North-Western

18	Dr. Mboni Chileshe	Copperbelt
19	Mr. David Musenge	Copperbelt
20	Mr. Moses Chabala	North-Western
21	Dr. Sam Miti	Copperbelt
22	Dr. Joseph Musowoya	Copperbelt
23	Mr. Charles Nguluta	Copperbelt
24	Mr. Sergei Katongo	HQ
25	Dr. Justor Banda	Copperbelt

CLUSTER C (EASTERN PROVINCE, LUSAKA, SOUTHERN, & WESTERN PROVINCES)

	Name	Province
1	Mr. Portipher Pilingana	Southern
2	Dr. Moses Chirwa	Eastern
3	Dr. Charles Fanaka	Eastern
4	Mr. Joseph Nyirongo	Eastern
5	Dr. Callistus Kaavunga	Southern
6	Dr. Namani Moonze	Southern
7	Mr. Christopher Katowa	Southern
8	Dr. Linos Mwiinga	Southern
9	Dr. John S. Kachimba	Southern
10	Mr. Benjamin Nsenje	HQ
11	Prof. Sekelani S. Banda	HQ
12	Ms. Evelyn Muleya	HQ
13	Mr. Roy Chihinga	HQ
14	Ms. Tamara Mazuba Mukubani	HQ
15	Ms. Susan Phiri Mwanza	HQ
16	Dr. Francis Liwyali	Western
17	Dr. Lisulo Walubita	Western
18	Mr. Allan Simakando	Western