UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH, COMMUNITY DEVELOPMENT, GENDER, ELDERLY AND CHILDREN

NATIONAL HUMAN RESOURCES FOR HEALTH STRATEGY FOR 2020 -2025

November 2020

Table of Contents

List of Tables

List of Figures

List of Abbreviations

BCC	BEHAVIOUR CHANGE COMMUNICATION
BMAF	BENJAMIN MKAPA HIV/AIDS FOUNDATION
CHMT	COUNCIL HEALTH MANAGEMENT TEAM
CPD	CONTINUED PROFFESIONAL DEVELOPMENT
COCESCA	COLLEGE OF SURGEION OF EAST CENTRAL AND SOUTHERN AFRICA
DHS	DISTRICT HEALTH SECRETARY
ECSACON	EASTERN CENTRAL AND SOUTHERN AFRICA COLLEGE OF NURSING
EPI	EXPANDED PROGRAM ON IMMUNIZATION
ESL	ENTERSOFT LIMITED
FBO	FAITH BASED ORGANIZATION
HIV/AIDS	HUMAN IMMUNE DEFFICIENCY VIRUS/AQUIRED IMMUNE DEFFICIENCY SYNDROME
HMTs	HOSPITAL MANAGEMENT TEAMS
HRHSP	HUMAN RESOURCE FOR HEALTH STRATEGIC PLAN
HRH	HUMAN RESOURCE FOR HEALTH
HRHIS	HUMAN RESOURCE FOR HEALTH INFORMATION SYSTEM
HRHTWG	HUMAN RESOURCE FOR HEALTH TECHNICAL WORKING GROUP
HSSP	HEALTH SECTOR STRATEGIC PLAN
SDGs	SUSTAINABLE DEVELOPMENT GOALS
MoFE	MINISTRY OF FINANCE
MOHCDGEC	MINISTRY OF HEALTH COMMUNITY DEVELOPMENT GENDER ELDERLY AND CHILDREN
MoEVT	MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
MMR	MATERNAL MORTALITY RATIO
HRHSP	HRH STRATEGIC PLAN
OPRAS	OPEN PERFOEMANCE APPRAISAL SYSTEM
PORALG	PRESIDENT'S OFFICE REGIONAL AND LOCAL GOVERNMENT
POPSM	PRISIDENT'S OFFICE PUBLIC SERVICE MANAGEMENT
RHMT	REGIONAL HEALTH MANAGEMENT TEAM
RMO	REGIONAL MEDICAL OFFICER
RRH	REGIONAL REFFERAL HOSPITALS
TCU	TANZANIA COMMISSION FOR UNIVERSITIES
TIIS	TRAINING INSTITUTION INFORMATION SYSTEM
TI	TRAINING INSTITUTION
UHC	UNIVERSAL HEALTH COVERAGE
WHO	WORLD HEALTH ORGANIZATION

Glossary of Terms

Human Resources for Health (HRH - synonyms are health manpower, health personnel, or health workforce). HRH denotes persons engaged in any capacity in the production and delivery of health services. These persons may be paid or volunteers, with or without formal training for their functions, individuals engaged in the promotion, protection, or improvement of population health, including clinical and non-clinical workers.

Human resources planning- "...is the process of estimating the number of persons and the kinds of knowledge, skills, and attitudes they need to achieve predetermined health targets and ultimately health status objectives" (WHO, 1978). Over the years this function has been broadened to include that of formulating human resources policy, in which the word" policy" refers to statements made by relevant authorities that are intended to guide the allocation of resources and effort. Health services and human resources policies constitute key instruments for implementing decisions affecting the delivery of health care.

Human Resources Production- refers to "all aspects related to the basic and post-basic education and training of the health labour force. Although it is one of the central aspects of the health manpower (development) process, it is not under the health system's sole control" (WHO, 1978). The production system includes all the health system's educational and training institutions, which are increasingly the joint responsibility of service and educational institutions.

Human Resources Development (HRD) - is the process of developing and improving the capacity, ability, skills and qualifications of an organization's staff to a level required by the organization to accomplish its goals. As applied to human resources for health (HRH), it includes the planning, production, and post-service training and development health personnel.

Human Resources Management – refers to the "mobilization, motivation, development, and fulfillment of human beings in and through work" (WHO, 1978). It "... covers all matters related to the employment, use, deployment and motivation of all categories of health workers, and largely determines the productivity, and therefore the coverage, of the health services system and its capacity to retain staff" (Ibid). Typical HRM functions include recruitment, staff performance evaluation, work analysis and the development of position descriptions, remuneration policy and practice, and occupational health and safety policy and practice. Strategic HRM is the development and implementation of personnel policies and procedures that directly support the achievement of an organization's goals and objectives.

Labour Market - is an informal market where workers find paying work, employers find willing workers, and where wage rates are determined. Labour markets may be local or national (even international) in their scope and are made up of smaller, interacting labour markets for different qualifications, skills, and geographical locations. They depend on exchange of information between employers and job seekers about wage rates, conditions of employment, level of competition, and job location (Business dictionary. com)

Health Workers Productivity- percentage of observed time spent doing one of the eight "productive" activities including: Direct patient care; Indirect care; Outreach; Administration; Meetings; Training;

Cleaning, preparation, Maintenance; and Personal hygiene (The Zanzibar Health Care Worker Productivity Study, 2010)

The Workload Indicators of Staffing Need (WISN)- is a human resource management tool. It provides health managers a systematic way to make staffing decisions in order to manage their valuable human resources well (WISN User Manual Publication date: December 2015-WHO

Foreword

The National HRH Strategy 2020-2025 present a country's framework to address HRH shortage and issues. This strategy is developed in the context where the country's production of HRH for some cadres is higher while the absorption has remained to be low. The National HRH Strategy 2020-2025 has been prepared in a situation where majority of HRH stakeholders feel that there is a need to recalculate the HRH needs and move away from static establishment. Such a critical idea and many others which were documented and incorporated into this strategy were collected from MOHCDGEC, POPSM, PORALG, MOFEC, MoEVT officials and non-governmental stakeholders in the health sector. The strategy provides a well-informed framework by existing documents and stakeholders to develop, deploy and retain human resources critical to the delivery of quality health services. It takes into account the lessons learned in the implementation of the previous strategic plan. With Strategic plan 2014-2019, We learned that

i. We need to justify the HRH requirement in a more realistic way beyond the static establishment.
ii. Increase in production need to go hand in hand with rigorous investment to address quality of training. In this strategic plan the focus will be strengthening the training system quality from the curriculum design, trainee selection to training delivery
iii. Our training institutions need to operate efficiently while ensuring quality. Efficiency in the delivery of training is amongst areas where MOHCDGEC would focus and seek partnership to address the identified challenges. This will also go together with management of curriculum development in one educational centre. This is done to ensure that curriculum is aligned with local and global health needs. Structured and coordinated CPD is a strategic focus of this strategic plan. Investment in this area will ensure the CPD is embedded in a system of career development by linking CPD and re-registration of professionals including accreditation of all CPD activities.
iv. The value of OPRAS in improving institutional and individual performance is not realized as intended. This strategic plan will focus on ensuring that appropriate adaptation of OPRAS at all level is done and OPRAS is included in Induction process. The sector is keen in emphasizing appropriate induction to health workers at all levels. This will be linked to strategies that will improve productivity and optimal utilization of existing workforce. Performance management systems will be strengthened and will ensure that the deteriorating professionalism and ethical conduct is addressed.
v. We acknowledge as the ministry that salaries alone are not enough to assure HRH retention unless the health system adequately supports the existing workforce. Ensuring that the working environment is favorable, is central part of the overall health sector strategy and is a policy objective
vi. We need to heighten our ability to execute. To achieve the intentions of the plan the culture of the Ministry must shift from a passive administration orientation to a proactive management driving towards our goals. We will need to invest in and modify our organizational culture, incentives and opportunities to attract and mobilize high quality staff with the capacity to energize and manage the implementation. We need to strengthen our ability to monitor what is happening and importantly to take action as new problems and issues arise.

The National HRH strategy 2020-2025 has therefore been developed with a view to create an enabling environment to promote participation of key Human Resource for Health stakeholders in addressing

human resource crisis in the health sector- with a focus on five (5) thematic area (HRH planning, development, management and HRH strategic plan financing) with strategic objectives to attain results in eight (8) key areas. This is a document designed to promote partnership among government and other stakeholders. It directs the efforts of all HRH stakeholders to attain a common goal.

Prof Abel N. Makubi,
Permanent Secretary (Health)

Acknowledgement

The government through the Ministry of Health, Community Development, Gender Elderly and Children (MOHCDGEC) extends its outmost appreciation for the generous contributions, support, commitments and efforts put forth by all involved institutions and individuals to ensure success in the development of this Human Resource for Health strategic plan. Indeed, their tireless involvements in the open and participatory processes have made possible the accomplishment of this strategic plan. Though the space does not permit to mention them all, the Ministry wishes to particularly acknowledge invaluable inputs from all key stakeholders.

Specifically, the government is indebted to CDC for their financial assistance, guidance and support provided throughout the process. It is worth to mention Dr. Andrew Makoi, the HRH Chief of Part from CDC Office; Dr. Keneth Lema and Peter Mbago from MSH.

Special appreciations are extended to all MOHCDGEC staff for their valuable contribution in providing and facilitating access to very useful information and technical guidance. In particular, we would like to thank you Mr. Martin Mapunda -the Assistant Director of Human Resources Planning for the Sector, Mr. Hussein Mavunde -Coordinator of Human Resources Planning, Issa Mmbaga, Ndementria Vermand, Fadhili Lyimo and all staff from Human Resource Development Division for their tireless efforts and commitments on gathering all the information and drafting the HRH Strategic plan. I also wish to extend my sincere gratitude to all colleague staff from different departments of the MOHCDGEC for their inputs.

The government wish to acknowledge the contribution of experts from DPG Health, BMF, CSSC, I-TECH, JIEPHGO, Health Training Institutions and other implementing partners.

Last but not least, we would like to express our sincere gratitude to our consultants Prof. Henry A. Mollel from Mzumbe University and Mrs. Hadija Kweka from Enhance Tanzania Foundation for their technical expertise and guidance throughout the development of the National HRH Strategy 2020-2025. Their experience and professional contributions have greatly added value to the quality of this strategy.

Dr. Loishooki S. Laizer

Director of Training and Human Resources Development

Executive Summary

The National HRH strategy 2020-2025 contains strategies that align the production efforts with the existing and future needs. It focuses on recalculating the HRH gap to ensure that the investments in deployment are directed to realistic demands. This is done to respond to lessons learned in the implementation of the previous two strategies where production targets were met but absorption continued to be very low with limited impact on abridging the existing HRH gap. Currently, the HRH shortage stands at 52% which is less of the existed shortage of 56% in 2014. 11,469 middle level cadres and 730 MD (from MUHAS) graduated since 2015, only 1, 505 providers were employed making it hard to bridge the existing gap to an acceptable pace. HRH demand continues to increase following construction of new facilities and upgrading of existing ones to higher levels of care. There is overall increase in HRH density of 10,000 populations for all cadres. The density of nurses and midwives per 10,000 populations indicate decreasing trend while at regional referral hospitals, shortage of specialist ranges between 62% - 100%.

HRH productivity has increased: the output of health services is considerably higher than 5 years ago as indicated in service delivery statistics where there has been increased efficiency. This is attributed to improved availability of medicines (95% tracer medicines), despite some instances where there some health facilities were reported to run out- of stock of other essential medicines. Facilities indicated improvement based on STAR rating in second assessment (20% three star) though there are yet to realize the set target of 50%. These findings suggest that, there is no always linear relation between production of services and numbers of staff when other inputs are strengthened. It is high time to reflect back on the existing staffing norms in the context of improved service delivery and technology development in health. After all, OPRAS implementation which was designed to promote accountability and productivity remains to be a challenge.

The National HRH strategy 2020 -2025 is developed following the theory of change. The underlying assumption derived from the theory of change is that- in order to improve health workforce in terms of numbers, skills and motivation, there should be coherent links between production, deployment, performance management and continuous professional development. The link is derived from strengthened HRH planning that informs investment decisions on production, deployment and management of HRH. This should go hand in hand with appropriate resourcing as well as building the MOHCDGEC particularly the DHR unit's execution capacity as well as effective Multisectoral engagement and partnership.

The National HRH strategy 2020 -2025 aims at reducing HRH shortage by 10%. This will be achieved through implementation of the five (5) Strategic Objectives that intend to produce effect in eight (8) Key results areas as shown in the following Table. The implementation of the National HRH Strategy 2020-2025 is estimated to cost 92,183,400.86 USD.

Strategic Objectives	**Key Result Area**
1. Strengthen the HRH planning in line with MOHCDGEC functional mandates and in decentralized settings of health service delivery by 2020	2. Availability and Utilization of HRH Information for Planning and performance management
	3. Capacity for HRH Planning
	4. HRH Strategic Plan and Advocacy at all levels
2. Improve availability of qualified and competent human resources at all levels to adequately correspond with current and future health sector needs 2025	3. Pre-service-HRH Development
	4. On Job-HRH Development
3. Improve the recruitment, deployment and retention of health workers through the use of context specific sound interventions to ensure equitable (need based) distribution of health work force at all levels of the health sector by 2025	4. HRH available at all levels with optimal skills mix
	5. Community Health
	6. *Distribution:* HRH managers use modern technics in making evidence based decisions for HRH distributions
	7. *Utilization:* HRH productivity is optimized

	through the use of strengthened performance Management systems
	8. Health Governance
4. Improve working environment, living conditions and facilities for HRH by 2025	5. Working Environment
	6. Living environment
5. Strengthen mobilization of HRH financing from government, local based community stakeholders such as WDC, business companies (corporate social responsibility resource mobilization) and development partners locally and internally to adequately implement HRH interventions by 2025	6. Investment on HRH
	7. Revenue Collection and Resources Mobilization
	8. Financial accountability and Transparency

The development of the strategies is based on the assumptions that:

- There will be continued political stability and stakeholder goodwill towards the health sector
- There will be continued commitment to the realization of health sector goals as articulated in the National policy and the Health Strategic Plan
- Macroeconomic stability and sustainable economic growth
- Health remains a priority sector and there is increased and sustained funding from the Ministry of Finance and Development Partners for all HRH programs
- Availability skilled and motivated health workers in the labour market in line with the aspirations of the National Health and Human Resources for Health Strategic Plan

Successful implementation of the National HRH Strategy 2020 -2025 is highly dependent on continuous commitments and collaborative efforts of the key stakeholders from government sector, non-governmental sector and development partners. It also requires dedication and focus of staff and managers of relevant ministries and the health sector in particular to stimulate, energize and coordinate the incoming efforts to produce results in the short-, medium and longer-term. The strategy will be disseminated to all local authorities, regions and institutions.

This strategy calls for collaborative efforts and contributions from development partners and other key stakeholders to support the government is addressing the HRH issues. **The estimated cost for implementation of the HRH strategy 2020-2021 is TZS Billions 7,313.76. T**his estimates cost was established based on full expansion to the targets set for different HRH interventions areas for vital interventions, partial scale-up for essential interventions, and maintenance of interventions deemed nice to have.

Section One
Introduction

1.1 Background

Human Resources for Health (HRH) is critical components to any health care systems. Health systems can only function with health workers. Most of global and government's health policies and strategies acknowledge the value HRH has in any health systems as well as challenges of having in place adequate number of qualified competent health workers. No doubt, Human resources for health are the cornerstone of the health system in every country and play a critical role in achieving universal health coverage (WHO 2018). In the Sustainable Development Goals (SDGs) for 2016–2030 that set the framework for countries health priorities, health workforce is recognized as a critical component for the attainment of health and wider development objectives.

Tanzania has faced severe shortage of Human Resources for Health for decades. To date, the HRH shortage remain a critical challenge of the health system requiring emergence and serious intervention. Currently the HRH shortage stands at (52%) with rural and hard to reach areas being more severely hit. The various initiatives guided by previous HRH strategic plans (HRHSP 2008-2013 and 2014-2019), has largely addressed the problem of the availability of trained workforce in the Tanzania labor market as detailed in section 4 on current situation of HRH in the country. Currently, Tanzania has more health professionals graduated in the labor market than the health systems capacity to absorb (see appendix 3 and 4). Note that the production of HRH continues to grow along side with increasing the quality (competences) of graduate. Note that, such achievements were based on only 33% of the funded HRH activities in the previous strategic plan 2014-2019, and thus call for a strategy to increase the funding allocation to the planned activities in this strategy. The focus is now on absorption of the existing workforce to abridge the existing gaps. The absorption should go hand in hand with deployment based on level of needs, which has also been a serious problem leaving some health facilities better manned than others in favor of those located in urban areas.

The development of this new strategy acknowledge the remarkable positive effect of the government and development partner's commitments in bringing the shortage down. For the decade, the initiatives by the government in collaboration with development partners has managed to reduce the shortage from 56% to the current 52%. Despite of such remarkable attainment, the pace is still low compared to population increase, and epidemiological transitions and expansion of health facilities coverage. The efficient use of available human resources is the agenda that needs consideration in 2020-2025 HRH strategic plan calling for strategic investments in improving management systems to enhance improvements in staff productivity.

The 2020-2025 HRH Strategic plan is designed with a focus to address the unfinished business that was set in the National HRH Strategic plan 2014-2019 including the challenges encountered between 2019-2020 in the transition to develop this new National HRH strategy for 2020-2025. The development of this HRH strategy took into consideration the recent environmental changes including the country's declaration into the lower middle income in June 2020 and emergent of global pandemics such as COVID-19. The strategy is also designed to address issues of readiness and preparedness to be able to cope with emerging and re-merging health problems as well as country's disease burden and global public health concerns. It is very clear that the problems to be addressed are enormous and they all

need attention. This National HRH strategy for 2020-2025 calls for interventions that address the current HRH severe shortages and those which position Tanzania better in facing future challenges. The key principle underlining this strategy is to focus on learning from global strategies and develop locally (contextual) based innovative solutions and feasible strategies for increasing availability, productivity, and addressing the current and future needs of HRH at all levels.

1.2 Rationale for the National HRH Strategy for 2020-2025

Several challenges affect the state of human resources in Tanzania which calls for prioritized and sustainable investments to address. The government alone cannot significantly bring the problem down in the short period without support from key stakeholders. This National HRH Strategy was developed to call for more collaborative effort to address HRH crisis in the country. It sets a framework for the coordination and development of innovative and reflective interventions that are considered to bring positive impact on HRH production, planning, development, management, utilization and monitoring of HR within the Health Sector and Social Welfare. The strategy facilitates coordination and integration of instrument from various HRH stakeholders and direct them into the common goal. The strategy helps to reduce duplication in the design and implementation of the HRH interventions. This National HRH strategy for 2020-2025 call for resource mobilization and prioritization to ensure that the strategies set in this document are effectively implemented to realize the right number of health workers, with the requisite knowledge and skills that are effectively managed to ensure that they are motivated to attain higher productivity levels and equitably distributed to deliver quality health services.

1.3 Approach and Methods for the National HRH Strategy 2020-2025

The development of the HRH strategies was interactive with effective engagement of stakeholders at all levels of the health systems through a series of workshops and consultations. The first draft of the HRH strategy 2020-2025 was developed during the development of HRH road map and was informed by the findings from the Midterm Review of Health Sector Strategic Plan IV: 2015-2020. The first draft was compiled after the HRH Malt-sectoral High Level Meeting on November 15th 2019 and presented in the first stakeholders workshop to get a common understanding of the framework and strategies as well as getting input for further improvement. The draft strategy was then presented in workshop A which comprised participants from government departments, agencies, organizations and other SWAp stakeholder. The inputs from workshop A was incorporated to the draft HRH strategy- and the draft formed the basis for drafting the HRH components for HSSP V 2020-2025. This was followed by presentation of the draft in the regional meeting that focused on aligning the national level perspective of the HRH strategies with the operational level. The input from the regional level stakeholder workshop were documented, analysed and incorporated into HRH strategy. The regional workshop was critical for establishing a common perspective and ownership of objectives, targets and priorities.

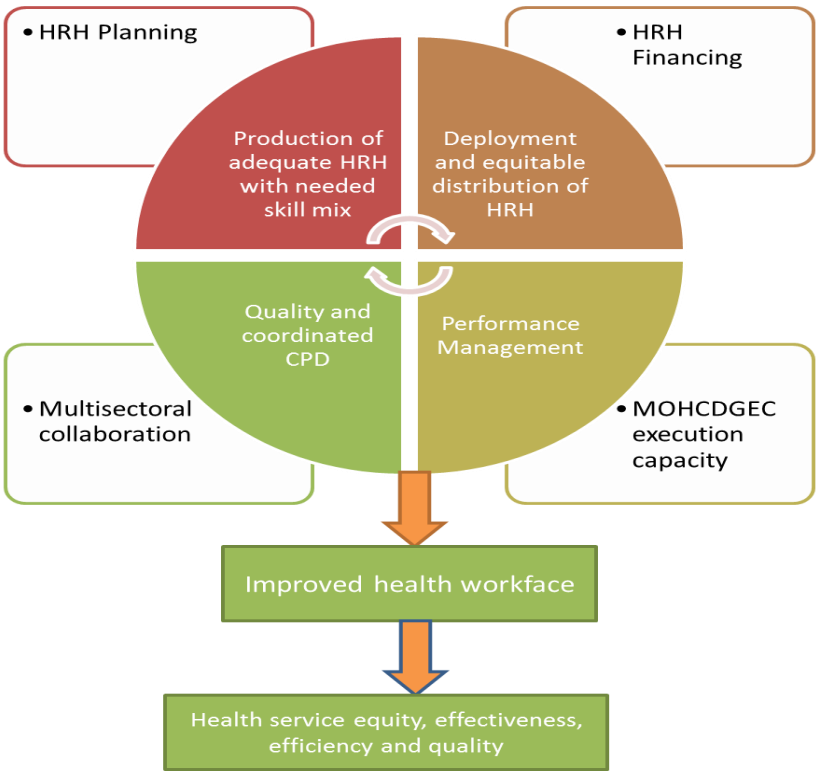
The HRH strategy was further presented in the workshop that comprised top government officials in the MOHCDGEC, PORALG, PO-PSM, Ministry of Finance and Planning, development and implementing Partners, health training institutions, and health professional councils. The main purpose of this workshop was to validate the HRH strategies and get inputs to finalise the HRH strategy. The inputs from this workshop was then incorporated and the final HRH strategy 2020-2025 was developed.

1.4 The Conceptual Framework for National HRH Strategy

The development of key HRH strategies was guided by HRH Action Framework. The framework was useful in ensuring that the National HRH Strategy for 2020-2025 addresses the key components of HRH issues and that the relationships between the components are well established for coordination and

effective management. The emphasis of the framework as adopted in the development of this strategy is that in order to improve health workforce in terms of numbers, skills and motivation, there should be coherent links between production, deployment, performance management and continuous professional development. The link is derived from strengthened HRH planning that informs investment decisions on production, deployment and management of HRH. This should go in tandem with appropriate resourcing as well as building the MOHCDGEC – DHR unit's execution capacity. Multisectoral action is and strong partnership is paramount. Figure 2. presents the action adopted to guide the development of the National HRH strategy 2020-2025

Figure 1: The HRH action framework



Section Two
HRH Strategic Direction and Current Situation

2.0. Government Enduring Commitments for HRH

The government strongly recognize that performance and quality of services delivered by a system are highly dependent on the knowledge, skills, and motivation of health workers responsible for delivering the respective health services (WHO, 2000). It has thus remained committed to ensure that the health systems at all levels has the standard required size of competent health workface with skill mix capable to provide equitable, high-quality healthcare services by addressing critical challenges including distribution of the healthcare workforce, workforce training, and migration of health workers. The government also envision that its capacity alone is inadequate to address the HRH shortage which has remained a crisis for a while now. This HRH strategy 2020-2025 draw its specific focus from HSSP V broad health sector goal, to call for collaborative effort from key stakeholders and provide guidance to effectively complement the government efforts in addressing the HRH issues in the country and avoid duplication. The guidance for investments to HRH revolve around HRH production, absorption, planning, development, management, utilization and monitoring of HR within the Health Sector. This strategy recognized other existing government initiatives directed to HRH as stipulated in other guidelines and strategies and align to the overall government commitment as stipulated in the following directional strategies.

Vision

The overall vision of the health sector of which HRH is part, is stipulated in the National Health Policy 2017 [which is currently under review] and reflected in the HSSP V 2020-2025. Specifically, the vision of government with regard to HRH is "*to have appropriate number (adequate) of health workforce at all levels of the health systems with skills mix and competences required to adequately and timely respond to health needs of the community and maximize the performance of the health system in Tanzania towards Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs)".*

Mission

The health systems that is adequately staffed at all levels through strengthening of functions HRH including production, development, planning, governance, policy, partnership, and management for effective delivery of quality health services.

Values

The core values that demonstrate the government commitment to realize its mission and vision are:

- Collaborative agreements and engagements in addressing all HRH issues
- Innovation in the implementation of HRH activities for better results
- Effective coordination of HRH stakeholders to enhance synergy with HRH strategies
- Transparency in decision making
- Accountability of stakeholders

- Effective use of HRH data for Evidence-informed decision making

2.1 The Guiding Frameworks

The current environment provided important framework for the development of the National HRH strategy 2020-2025. The focus of the strategy reiterates the emphasis made in other national and global documents and declarations. This means that the strategies have been informed by and aligned with the existing evidences and perspectives on HRH development and HRH management. It also took into considerations contextual issues that can influence the design and implementation of related interventions from the National HRH strategy. In this section, the key referred documents and the contextual issues considered in the development of this HRH strategy are highlighted.

2.1.1. The Policy Context

This National HRH strategy 2020 – 2025, is aligned with the revised health sector policy, national development visions 2025 and the international policies and strategic frameworks. The strategic directions set are in alignment with national and international framework. It is set to address current and future health needs of the population in terms of skills required and geographical coverage of HRH.

a) Global and Regional Policy Context

Sustainable Development Goals (SDG):

Post 2015 agenda for SDGs such as ending AIDS, tuberculosis and malaria; achieving drastic reductions in maternal mortality; expanding access to essential surgical services; ending preventable deaths of newborns and children under-; reducing premature mortality from non-communicable diseases; promoting mental health; addressing chronic diseases and guaranteeing UHC – will remain wish lists if they are not accompanied with innovative strategies in developing recruiting and managing health workforce. The innovative strategies should include institutionalized performance reviews in addition to Open Performance Revise and Appraisal System (OPRAS). The focus of this strategic plan is set to ensure that it is not leading to only mere availability of health workers but also equitable distribution, HRH with required competency, motivated and empowered HRH to deliver quality health services and attain the universal health coverage.

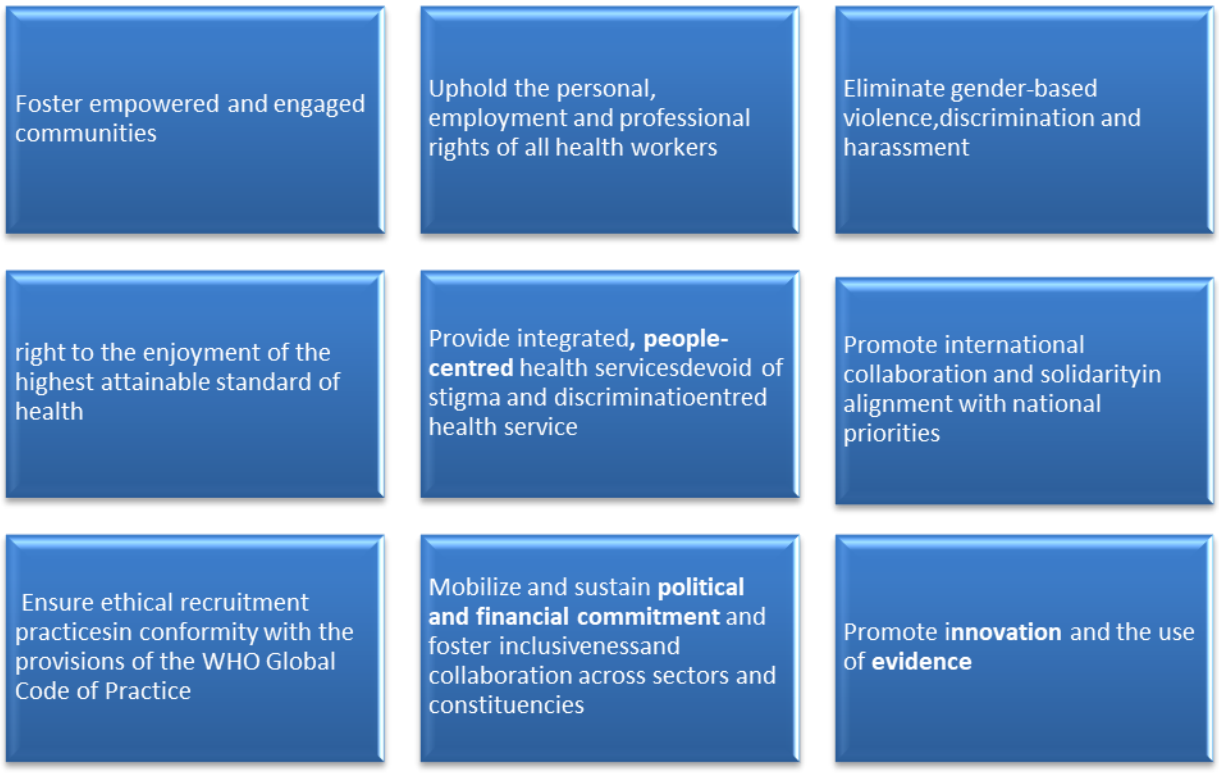
Global Strategy on HRH:

In 2014, the World Health Assembly recognized that the health goal and its 13 health targets – including a renewed focus on equity and UHC – would only be attained through substantive and strategic investment in the global health workforce. In resolution WHA67.24, Member States requested the WHO Director-General to develop a global strategy on HRH and submit this to the Sixty-ninth World Health Assembly in May 2016.

The Global strategy for HRH envisions equitable access to health care workers within strengthened health systems. The global HRH strategy goal is to ensure improvement of health, social and economic development outcomes through universal availability, accessibility, coverage and quality of health workforce. This ambitious result requires effective policies with adequate investment to address realistically defined unmet needs and taking into account increasing population demand, address existing gaps and counter expected attrition. In response to the global strategy on HRH Tanzania has

adopted global policy options on increasing coverage of service and reducing unmet service demand and has universal access to health workers, without stigma and discrimination by 2030.

Figure 2: The global strategy on human resources for health: workforce 2030 principles



The Global strategy for HRH outlines policy for member countries and recommendation for other stakeholders how to achieve the following four objectives on alignment to UHC and SDG, future needs, institutional capacity, and data for HRH and summarized in Figure 3

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

Milestones:

1.1 By 2020, all countries will have established accreditation mechanisms for health training institutions.

1.2 By 2030, all countries will have made progress towards halving inequalities in access to a health worker.

1.3 By 2030, all countries will have made progress towards improving the course completion rates in medical, nursing and allied health professionals training institutions.

Objective 2: Align investment in human resources for health with the current and future needs of the population and health systems, taking account of labour market dynamics and education policies, to address shortages and improve distribution of health workers, so as to enable maximum improvements in health outcomes, social welfare, employment creation and economic growth

Milestones:

2.1 By 2030, all countries will have made progress towards halving their dependency on foreign-trained health professionals, implementing the WHO Global Code of Practice on the International Recruitment of Health Personnel.

2.2 By 2030, all bilateral and multilateral agencies will have increased synergies in official development assistance for education, employment, gender and health, in support of national health employment and economic growth priorities.

2.3 By 2030, partners in the Sustainable Development Goals will have made progress to reduce barriers in access to health services by working to create, fill and sustain at least 10 million additional full-time jobs in health- and social care sectors to address the needs of underserved populations.

2.4 By 2030, partners in the UN Sustainable Development Goals will have made progress on Goal 3c to increase health financing and the recruitment, development, training and retention of health workforce.

Objective 3: Build the capacity of institutions at subnational, national, regional and global levels for effective public policy stewardship, leadership and governance of actions on human resources for health

Milestones:

3.1 By 2020, all countries will have inclusive institutional mechanisms in place to coordinate an inter-sectoral health workforce agenda.

3.2 By 2020, all countries will have an HRH unit with responsibility to develop and monitor policies and plans.

3.3 By 2020, all countries will have regulatory mechanisms to promote patient safety and adequate oversight of the private sector.

Objective 4: Strengthen data on human resources for health for monitoring and accountability of national and regional strategies, and the Global Strategy

Milestones:

4.1 By 2020, all countries will have made progress to establish registries to track health workforce stock, education, distribution, flows, demand, capacity and remuneration.

4.2 By 2020, all countries will have made progress on sharing HRH data through national health workforce accounts and submitting core indicators to the WHO Secretariat annually.

4.3 By 2020, all bilateral and multilateral agencies will have strengthened health workforce assessment and information exchange.

The HRH strategy 2020-2025 is designed in line to the following framework for optimization of health workforce to accelerate progress towards realization of Universal Health Coverage and Sustainable Development Goal.

Figure 3: Framework for optimization of health workforce to accelerate progress towards the UHC and the SDG

b) East Africa and National Education Structure and Regulation Framework

Globally, qualifications frameworks are considered an all-encompassing tool for guiding systematic approach for human resource development. Furthermore, qualifications frameworks are designed to serve as a guideline for curriculum development delivery, assessment, and certifications in line with the labor market. The East Africa education system and structure are guided by the treaty establishing the East African Community (EAC). The Partner States made explicit concerted measures to foster cooperation in education and training in particular harmonisation and comparability for compatibility purposes of qualifications among the Partner States through establishing the East African Qualification Framework for Higher Education (EAQFHE) in 2015. As such, the EAQFHE functions as both a supportive tool and as a guiding structured human resource development focusing on skills, competencies, and their relevance to the Community socioeconomic needs.

The need to establish mutual recognition of certificates, diploma, and degree's qualifications and other education in East African countries are in line with Africa's UNESCO Convention adapted from developments during the 5th December 1981 meeting held in Arusha. These developments prompted the EAC, through the Inter-University Council of East Africa (IUCEA) as its institution responsible for coordinating the development of higher education and research in the community to develop the EAQFHE. The EAQFHE applies for all types of education and training mode of delivery, training and qualifications from basic to higher education, vocational and professional institutions, obtained through formal or non-formal learning among the Partner States.

According to the East African Qualification Framework for Higher Education, 2015; higher education in the region consists of 20 types of qualifications: twelve at basic education including primary, vocational, and secondary school; and eight higher education's consisting of four undergraduate and five postgraduates. The types of qualifications are further clustered into five cycles and eight levels as shown in Table 4

Table 4: Qualification cycles level and nomenclature in East Africa

Cycle		level	Qualification Type	Nomenclature
Cycle V: Higher Education	Sub cycle 3: Doctoral	8	PhD, Doctorate degree, Post doctorate	Researcher, Innovator
	Sub-cycle 2: Masters programme	7	Master's degree Postgraduate Certificate Postgraduate Diploma	Scientist, Manager
	Sub-cycle 1: Undergraduate	6	Bachelor degree Graduate Certificate Advanced Diploma Diploma	Professional Nonprofessional noncertified
Cycle IV: Technical & Vocational Education and Training	Sub cycle 2: Post-Secondary Training (PST)	5	Technical Diploma Craft Certificate Non-Technical Diploma Non-craft Certificate	Associate Professional Certified Specialist Para professional Craft Operator
	Sub cycle1: Upper secondary education	4	Certificate of general secondary education Certificate of general vocational education Diploma of vocational secondary education	Semi-skilled school leaver
Cycle III: Lower secondary education	Lower secondary education	3	Certificate of general basic education Certificate of general vocational education Artisan Certificate (Theory and Practice)	Semi-skilled Skilled artisan Skilled operator
Cycle II: Upper primary	Upper primary	2	Certificate of general basic education Certificate of primary education	Skilled operative Semi-skilled operative
Cycle I:	Early Childhood Development Education (ECDE) & Lower Primary education	1	Certificate of general basic education	Numeracy and Literacy

Source: EAC, 2015

The structure of education in the East Africa Partner States as shown in Table 4 broadly comprises of basic education, industrial/technical training including vocational training, professional training, and higher education. The first and second cycles relate to Early Childhood Development Education and Primary School programs while the third and fourth cycles relate to Secondary, Post-Secondary,

Technical, and Vocation training programs. The fifth cycle corresponds to Undergraduate and Postgraduate programs.

The National Qualification Framework (NQF) as stipulated in the Tanzania University Qualification Framework (2012), was established in 2012 in advance of the EAQFHE, 2015 as portrayed in Table 1.

Table 1: Professional qualifications framework in Tanzania

Level	School sector	Technical and Vocational Training		University Education Sector	Professional Level	
		Vocational	Technical			
10				Doctorate Degree (PhD), Professional Doctorate Degree	Professional Level IV	
9			Master Degree in Specified area of Technical Education of Profession	Master Degree Postgraduate Certificate Postgraduate Diploma		
8		Vocational Bachelor Degree	Bachelor (Technical) Degree	Bachelor Degree	Professional Level III	
7		Higher Vocational Diploma	Higher Diploma	Higher Diploma	Professional Level II	
6		Ordinary Vocational Diploma	Ordinary Diploma (NTA Level 6)	Ordinary Diploma	Professional Level I	
5	Advanced Certificate of Secondary Education	Advanced Vocational Certificate	Technician Certificate (NTA Level 5)	Certificate	Technician Level II	
4	Certificate of Secondary Education	Vocational Certificate Level III	Basic Technician Certificate (NTA Level 4)		Technician Level I	
3		Vocational Certificate Level II				
2		Vocational Certificate Level I				
1	Certificate of Primary Education					

LIFELONG LEARNING

Source: TCU, 2012

The Tanzania Commission for Universities was mandated to establish and maintain a University Qualifications Framework (UQF) and the National Qualifications Framework NQF[1]. In essence, unlike the East African Qualification Framework, the education and training system in Tanzania is divided into four layers/clusters, namely, the basic education, vocation education and training, technical training, and university education.

The Vision 2025:

These objectives of the vision 2025 do not only deal with economic issues, but also include social issues such as education, health, the environment and increasing involvement of the people in working for their own development. The thrust of these objectives is to attain a sustainable development of the people where healthy population that engages actively in the economic development is central to its achievement.

National Health Sector Policy:

The National Health Policy aims at implementing national and international commitments. These are summarized through policy vision, mission, objectives and strategies. The Health Policy vision is to have a healthy community, which will contribute effectively to development of individuals and the country as a whole. The mission is to facilitate provision of basic health services, which are proportional, equitable, good quality, affordable, sustainable and gender sensitive. The Human Resource Strategic Plan seeks to implement strategies related to human resource for health as outlined in the national health policy 2020.

Socio-Economic Context:

The existing socio-economic situation suggests aligning the skills and professional ethics into the HRH strategic planning. When Tanzania is thinking towards becoming a middle level income country, the HRH availability is paramount first to ensure that the population is healthy to contribute to the economy in one hand and secondly it has to be first the realities emanating from industrialization that affect public health.

HRH Financing:

Political will is important component in addressing HRH issues. The 2020-2025 HRHSP is prepared while the older problems identified the previous strategy still persist. Shortages, skill-mix imbalances, mal-distribution, poor working conditions, a skewed gender distribution, limited availability of health workforce data – all these persist, with an ageing workforce making the matter worse especially health training institutions. In 2014-2019 HRHSP implementations, it was learnt that there is need for forging strategic links and collaboration with other sectors in order to strengthen the content of the strategic plan and implementation of the strategy. The 2014-2019 Human Resources for Health Strategic Plan, worked on six objectives that addressed issues of production, recruitment, retention, performance management, information and planning for HRH. Significant gains were achieved in the previous strategy in terms of meeting production targets and addressing the critical challenge of ensuring that at least all facilities have one trained provider. However, the pace at which the shortage of HRH was

[1] The Universities Act (Chapter 346 of the Laws of Tanzania Section 5(1)(o) and 5(1)(p).

reduced is low and create an extra burden for operations of the newly constructed and upgraded health facilities for delivery of quality health services. Recruitment of healthcare workers has remained to be lower compared to production. Still there are cadres with critical shortage and their enrollment remains lower or related academic programs do not exist at all. In addition, despite of achievements in enrollment, the training institutions still have serious shortage of tutors some of which are inadequately updated with new development in teaching methods and the infrastructures are inadequate and some are dilapidated. The same is also true for teaching labs.

There has been chronic under-investment in training and recruitment of health workers. This was compounded by difficulties in deploying health workers to rural, remote and underserved areas. Despite significant progress made in addressing rural-urban divide, there is a need to boost political will and mobilize resources for the workforce agenda as part of broader efforts to strengthen and adequately finance health system in Tanzania. Past efforts in health workforce development have yielded significant results. The implementation of the previous plan was guided by the development of HRH recruitment and production plans whose implementation was unacceptably low. The investment in the previous strategy was lower than was expected. For example, out of 129 activities only 42 activities had funding-Table 1.

Table 2: Funded and Unfunded HRH activities of HRHSP 2014-2020

Strategic Objective	Number of activities	Activities with support	Activities with no support	% of Supported per SO
SO1: To Strengthen Policy development and Human Resource Planning at all levels	30	7	23	23.3%
SO2: To Strengthen HRH Research and Utilization at all levels	12	1	11	8.3%
SO3: To strengthen leadership and stewardship in Human Resource	8	2	6	25%
SO4: To Strengthen HRH recruitment, retention, career development and utilization at all levels	22	10	12	45.5%
SO5: To Improve Production and Quality of HRH	41	17	24	41.5%
SO6: To Strengthen Partnership and coordination of HRH stakeholders at all levels	16	5	11	31.3%
TOTAL	**129**	**42**	**87**	**33%**

Technological context:

The goal of achieving more equitable, comprehensive and integrated models of health care was first inspired by the Declaration of Alma-Ata in 1978, which encouraged a focus on primary health care towards. Forty years later, countries are coming together to reaffirm their aspiration and collective imperative to strengthen primary health care as they reinterpret the goals of Alma-Ata in a contemporary context. Information and communication technologies were newly emerging when the Declaration of Alma-Ata was agreed four decades ago. Digital health technologies are having a profound effect on how health services are delivered and how health systems are run. Digital health technologies are use in promoting better ways of diagnosing disease, to monitoring the impact of policies on population health. Electronic health records capture information about an individual's health, medical conditions, medications and key events, which can be shared for referrals and timely clinical decision-making. Digital technologies can help improve the patient journey. They can prevent duplication of care processes and enhance communication between providers as well as avoid unplanned hospitalizations and visits for urgent care. Ensuring that the general public has access to timely, expert advice by telephone in health emergencies can save lives. Now that the Tanzania is preparing another five years HRHSP, it is important to take into account these developments and factor them in addressing HRH the shortage. With digital technologies multi-tasking is possible at primary care, delivery of CPD is possible and remote support for health worker is as well possible

Epidemiological Context:

The 2020-2025 Human Resources for Health Strategic plan is developed in a period where the disease burden presenting a challenging situation. The country is facing the dual burden of disease with non-communicable diseases gaining momentum. In the past two decades' communicable diseases were the major public health challenges. Of recent Tanzania records an increasing burden of non-communicable disease. The socio-demographic and economic transition has a big role in the current rise of non-communicable diseases in Tanzania (Mayige, Kagaruki et al. 2012). The main risk factors for NCDs namely smoking, alcohol intake, unhealthy diet and low physical activity are prevalent in both rural and urban communities. The need to focus on primary prevention at population level is paramount such as targeted interventions to reduce exposure to tobacco, reduce alcohol intake, reduce salt intake, and promote healthy diets and physical activity. Community-based interventions are needed targeting the

risk factors for primary prevention. However, this cannot happen haphazardly, a concrete HRH strategies are needed to ensure that providers being skilled or community health workers are in place and are able to deal with non-communicable diseases in terms of competencies and motivation

Following disease outbreaks and the need for within the country or cross-border preventive activities, HRH strategic plan needs to express explicit mechanisms in which all health providers who are expected to deal with prevention and management of outbreak will be reached with appropriate knowledge before outbreaks occurs. Ebola and now covid-19 are example of global emergencies of public health concerns that require prior strategic response from HRH perspective. Strengthening the ongoing Field Epidemiology and Laboratory Training Program, remain a critical component in controlling and managing emergencies and disease outbreak in the country including preparedness, response, border health, and other public health emergencies such as accidental injuries, occupational health, NCD like aflatoxicosis and food poisonings.

Similarly, the trauma burden is increasing. Trauma contributes significantly to the burden of disease and mortality throughout the world, but particularly in developing countries. Trauma remains a leading cause of death and disability particularly in pediatric, fistula and adolescent populations worldwide. Currently, injuries through Road traffic crash (RTC) are ranked ninth globally among the leading causes of disability and deaths. It is estimated that 1.2 million people are killed in RTCs each year and as many as 50 million are injured globally (Sawe, Mfinanga et al. 2017)

Key Statistics:

Table 2 provides highlights of the country progress in terms of prevalence of selected diseases and conditions.

Table 3: Key Statistics

Demographics	Status
Life expectancy at births	According to the National Census 2012 Projections, the most recent estimates of life expectancy at birth in year 2020 s was 66 years old, increased from 63 years old in year 2015,..
Disease burden	▪ According to the data collected through the HMIS/DHIS2 indicate that malaria has declined from 14.9% in year 2014/15 up to 7.3% to 2019/20. On the other hand, death due to malaria has declined from 6,322 in year 2014/15 to 2,079 in year 2019/20. ▪ The national 2014 TB prevalence survey resulted in an upward adjustment of the estimated incidence cases and a lowering of the case detection rate to 37% for 2015, but with very large uncertainty (22-78%). Especially, among older people 62 (45 years and over) case detection rates were low. The case detection rate for 2018 was estimated at 50%, well off the 2020 target of 72%. ▪ Number of TB detection has increased from 62,180 in year 2014/15 to 82,166 year 2019/20 equal to increase of 32%. TB treatment success rate increased from 90% in 2014/15 to 91% to 2019/20, and new TB infection has decreased from 306/100,000 in year 2014/15 to 253/100,000 in year 2019/20, further more death due to TB has decreased from 56/100,000 in year 2014/15 to 40/100,000 year 2019/20 ▪ HIV prevalence is gradually declining among young people, suggesting reduced HIV incidence, but young women 15-24 years still have a considerably higher prevalence than young men (2.4% and 0.6% respectively).
Mortality	▪ The TDHS 2015/16 indicated that under-5 mortalities in Tanzania continued its decline during HSSP III to 67 per 1,000 live births for 2011-2015, which puts it in the middle of 10 countries in the eastern African region. ▪ The decline for neonatal mortality has been slower, with 2.2% reduction per year during 2004/05-2015/16. To achieve the SDG target of 12 per 1,000 live births the decline will need to accelerate to 4.9% per year. ▪ In the TDHS 2015/16, 37% of under-5 deaths occurred during the neonatal period. This is up from 29% in the TDHS 2004/05. ▪ Maternal mortality per 100,000 live births was 556 (TDHS 2015-16)

Coverage of RMNCH services	▪ Antenatal care coverage improved during HSSP IV, including an increase of women making at least 4 visits from 39 in year 2014/15 to 81% year 2019/20 and first trimester visits from 14% year 2014/15 to 34% year 2019/20, as well as testing rates for syphilis 34% to 735, anemia 44% to 70% and IPT2 coverage57% to 87 years 2014/15 to 2019/20 respectively. Postnatal care attendance (within 48 hours) increased % from 41% in year 2014/15 to 73% in year 2019/20. ▪ Immunization coverage levels among infants are high; pentavalent vaccination (3 doses) in year 2019/2020 was 98% as compared to 82% in year 2014/15 this is above WHO standard which require country to vaccinate at least by 90% and measles remained high during 2015-2020: ranging from 57%-to 92% according to DHIS2- ▪ PCV and Rotavirus vaccines introduced in 2013 rapidly reached 82% and 86% respectively by 2014/15. PCV3 increased to 99% in 2019/20 and Rota2 coverage maintained same level (98% in 2019/20). ▪ Modern contraceptive use for women of reproductive age increased from 38% in year 2014/15 to 44% in year 2019/2020 according to HMIS/DHIS2. The demand satisfied for family planning with modern methods increased to 53% TDHS 2015/16.

Although the key statistics indicate improvements, the country is still struggling with slow reduction of neonatal deaths 2.2% reduction per year during 2004/05-2015/16. According to the countdown report each year, at least 51,000 Tanzanian newborns die; an additional 43,000 babies are stillborn. The three main causes of neonatal death in Tanzania are well known: 32 percent die from infections; 27 percent die from complications of preterm birth; 26 percent die from birth asphyxia.

Section Three
Situational Analysis of Human Resources for Health in the Country

3.1. Introduction

Critical analysis was conducted to HRH situation in the country to identify problem and gaps. The purpose is to establish the basis for the development of reflective and responsive strategies to address critical factors contributing to HRH shortage in the country. The analysis was done thematically to ensure that key HRH aspects are comprehensively addressed. The main thematic area addressed in this section including Planning for HRH, Health Workforce Requirements, HRH distribution, Human Resources Development, performance management of health workers, working environment and attrition, transfers and promotions, task sharing and HRH research.

3.1.1. Planning for HRH

i. HRH Planning Capacity

Health Workforce planning is a fundamental function of the MOHCDGEC and PORALG as it allows the Ministry to systematically review workforce requirements to ensure that the required numbers of health workers with the right skills are available when and where they are needed. However, reports from review of plans from the MoHCDGEC and PORALG have shown that there is limited capacity of health workers involved in planning to develop sounds and reflective HRH plans. As a result, regional and council levels planning function seems to have been more heavily skewed toward HRH operational management and administration than HRH planning. This situation has greatly contributed to the continue severe HRH shortages and imbalance distribution across regions and councils. It is important to notice that HRH planning is a key function at all levels because of its effect in determining performance of all other health systems components.

ii. Information for HRH Planning

Human Resources Information System (HRHIS) and Training Institutions Information System (TIIS) are major sources of HRH information to inform HRH planning. HRHIS and TIIS are not update from time to time and therefore it become difficult to get reliable health workforce availability data. Also, the systems do not provide information that is fundamental for planning such as attrition rates, professional career development, skills available in the sector against need, equity in distribution of staff, productivity of staff and staff undergoing specialist training. Efforts to integrate HRHIS to DHIS2 are ongoing to ensure that HRH data is routinely available. At council and regional level HRH planning have been greatly left to Health Administrators with limited collaboration from technical officials in the public sector. Less is known about the status of human resources for health and production in private and faith based health facilities or training institutions. Though HRHIS and TIIS provides access for these facilities to enter data for a national repository of HRH information, these facilities as it is for public health facilities, do not regularly update their HRH data in these systems. These challenges limit the ability for HRH planning and production in line with agreed national priorities in the delivery of primary, tertiary l and specialized health services.

3.1.2. Health workforce Requirement: Needs versus staff Availability

Despite the implementation of strategic options set during the BRN lab such as Prioritized allocation of employment permits to regions with critical shortage, strengthened central guidance on HRH planning in terms of production and recruitment plan and Conversion of permits to increase ability to recruit critical cadres; available HRH is 48% of the required staff. This was caused by employment freeze and construction of new facilities. The total human resources for health requirement is 208,595 for 7,397 health facilities, according to government computations and based on the available data. The total health workforce was 95,827 by December 2018. In 2017, the total workforce was 90,873, and increase of more than 5% in one year. According to the HSSP IV Analytical report there were 34,120 core health professionals in 2018. This includes the number of core health professionals from the 184 councils (75.0% of the total), the regional referral hospitals (15.6%) and the zonal and national referral hospitals (the remaining 9.4% of health workers).

Table 4: Needs versus Staff Availability in 2019

Facility Levels	HRH Required	HRH Available	Shortage	Percent Available	Shortage Percent
Dispensary	99,060	30,625	68,435	30.92%	69.08%
Health Centre	32,487	17,954	14,533	55.27%	44.73%
District Hospital	21,600	17,443	4,157	80.75%	19.25%
Other Hospital	26,400	11,243	15,157	42.59%	57.41%
Regional Hospital	14,226	11,373	2,853	79.95%	20.05%
National, Zonal, Specialized and Referral Hospital	14,509	10,349	4,160	71.33%	28.67%
Health Training Inst.	1,321	697	624	52.76%	47.24%
Grand Total	**209,603**	**99,684**	**109,919**	**47.60%**	**52.40%**

3.1.3. HRH Distribution

Rural urban divide continues. In 2017 data have shown that out of 90,873 available HRH 43,774 were in urban (46% of total) and 52,053 were in rural (54%). Although the data indicates that a large percent is in rural areas compared to urban, still the gap of the required workforce is greater in rural areas (80,000) than in urban area (32,000). According to the UN Population Division, in Tanzania the population that lives in urban setting is only about 32%. The HSSP IV analytical report showed the unusual picture. It was always expected to find urban areas doing better than rural/ emerging cities. Njombe region had by far the highest density with more than 16 health workers per 10,000 populations (figure 1). Iringa and Mbeya regions also have health workforce densities of just over 10 per 10,000 populations and are followed by Dar es Salaam and Kilimanjaro. The chances might be there is a possibility of undercounting. Whether the situation presents a true picture or whether there is undercounting all these are issues of strategic concerns (shortage of HRH and poor data management) that need to be addressed in the strategic plan. Human Resources Information Systems (HRHIS), is not updated and it is not integrated to DHIS2 so the information that is generated is not 100% reliable

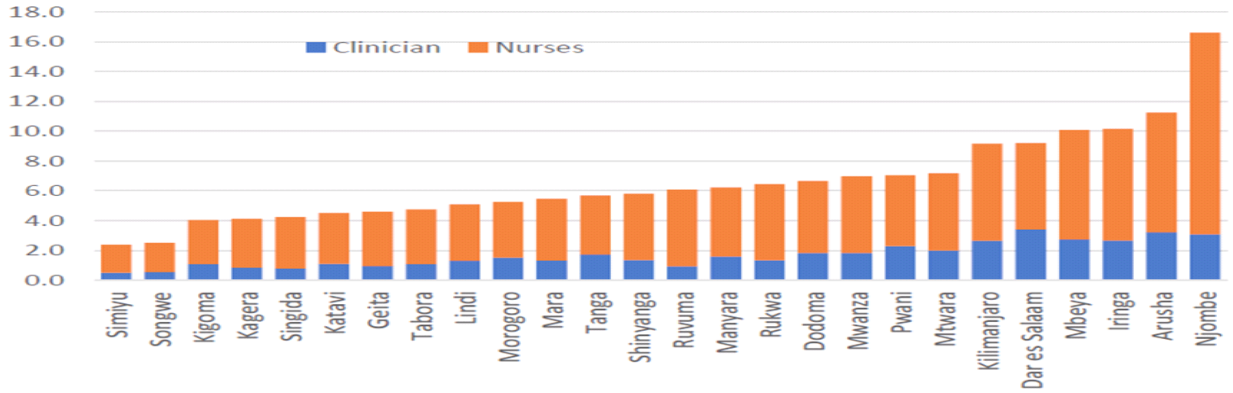
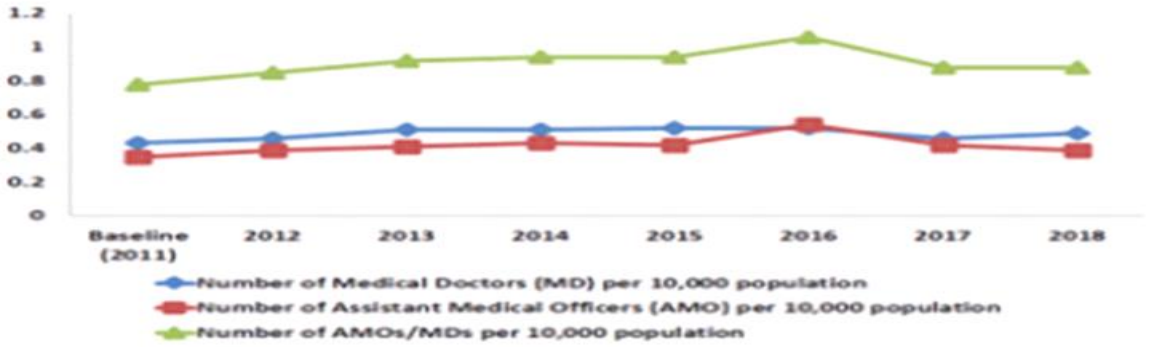


Figure 4: HRH density per 10,000 populations

Source: HSSP IV MTR Analytical report. The major gaps remained and the core health professional's density per 10,000 populations hardly increased – Figure 2 and



3

Figure 5: Medical doctors and Assistant medical doctors per 10,000 populations
Source: HRH- MTR Thematic Report

Furthermore, the number of nurses/nurse-midwives, including nursing officers, assistant nursing officers and (enrolled) nurses), was 4.7 per 10 000 population[2] with declining trend as shown in Figure 5 . The shortage in the nurse and midwifery workforce may be determined by staffing norms, which in itself falls short of the population in need of these services and the estimated workload for each nurse/midwife in a given year.

[2] This is lower than the 6.2 per 10 000 in the Ministry of Health HRHIS and needs further checking with the programme.

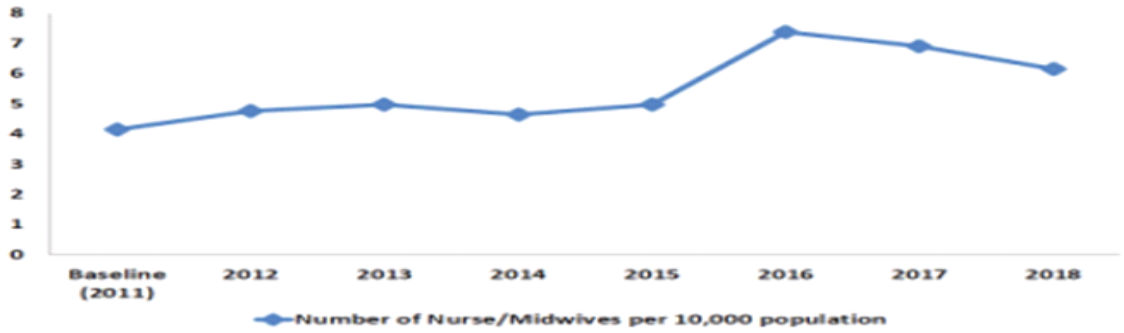


Figure 6: Nurses and nurses midwife per 10,000 populations
Source: HRH- MTR Thematic Report

Although the number of women delivering at health facilities has increased from just over half of all women (50.2%) in TDHS 2010 to two–thirds (63%) in the TDHS 2015/16 with observable continued increasing trend from 65% to 72% during 2015–2017, followed by an acceleration in 2018 to 77% coverage, however the recent Mid Term Review of the Health Sector Strategic Plan IV and the review of the One Plan II show that maternal mortality and new-born deaths have stagnated, and that more mothers and new-born die in health facilities where they go to seek care and expect to be saved. Several studies in the past decade have shown low quality of routine care during childbirth.[3, 4] The declining scenario of midwifery workforce and death of newborns and mothers while giving birth calls for increased investment in the midwifery workforce. Availability of specialists is really challenging this is a strategic concern. The need of specialists is changing given the changes in the disease patterns. Mechanisms to which specialists can be developed is important. This needs to go in tandem with revisiting of the needs of specialists as indicated in the staffing levels of 2014. For example at regional referral hospitals shortage of specialist ranges between 62% - 100% . Status of shortage of specialist is presented in figure 4

[3] Miltenburg AS, Kiritta RF, Meguid T, Sundby J (2018). Quality of care during childbirth in Tanzania: identification of areas that need improvement. *Reproductive Health*. 15:14 DOI 10.1186/s12978-018-0463-1.
[4] Duysburgh E, Zhang WH, Ye M, Williams A, Massawe S, Sié A, et al. Quality of antenatal and childbirth care in selected rural health facilities in Burkina Faso, Ghana and Tanzania: Similar finding. Trop Med Int Heal. 2013;18(5):534–47.

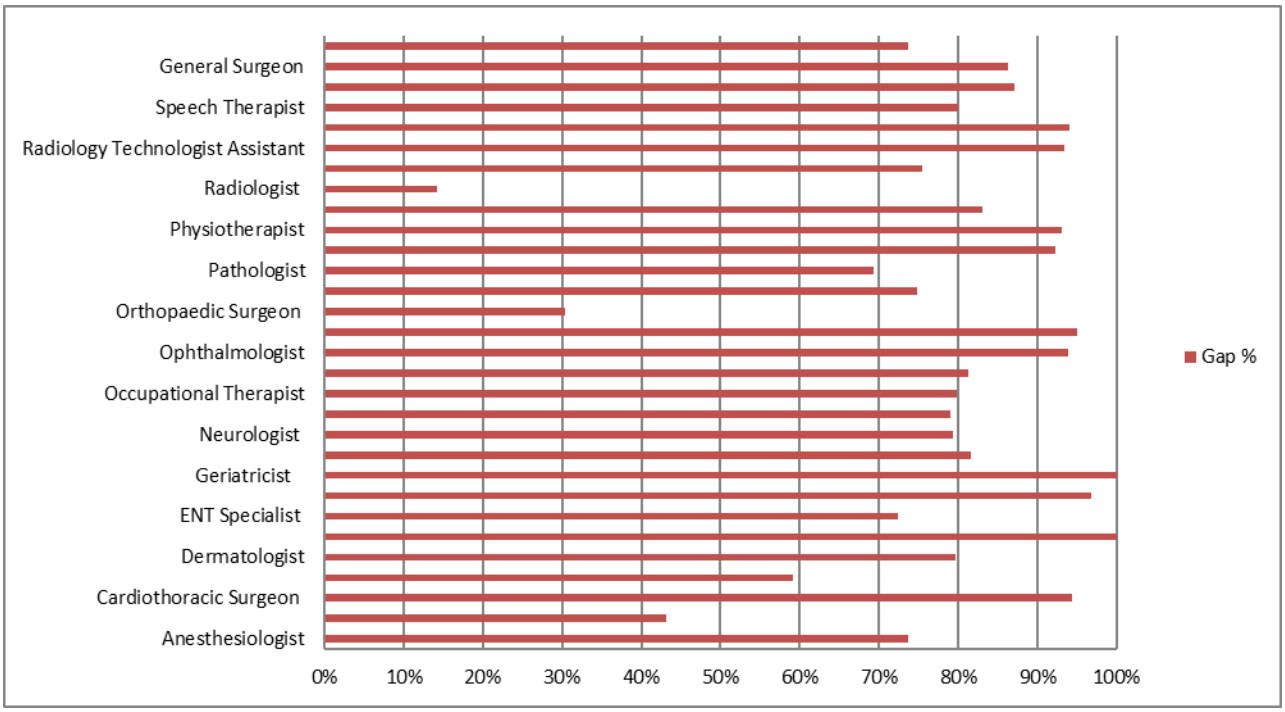


Figure 7: Shortage of medical specialists
Source: MOHCDGEC Reports

Difficulties to deploy required number of HRH because normally the permits are lower than what was requested is the long standing challenge leading to lower pace in addressing HRH shortage- this is attributed to lengthy and unwieldy recruitment systems as well as financial constraints to creating new posts and provide incentive to staff. Mal-distribution has been a longstanding concern in the health sector and the deployment of health personnel to the rural and remote areas of the country- the contributing factors being, difficulties in deploying health workers to remote and underserved areas. For those who have attempted to go to rural areas some find reasons of not staying in remote areas. The reasons may include several requests for further training and transfers. In addition, the HRHIS is not updated hence leading poor data quality. Some important cadre to address the existing burden is not included in the staffing norms, example the neonatologists.

Due to HRH shortage task sharing has been happening and it was the intention of the ministry then to formalize it. HRH Task Sharing Policy Guideline and Implementation Plan (2014 – 2019) exist. Task sharing is seen in all levels and prominent at lower level health facilities especially at dispensary and health center level where HRH shortage is higher. It has been noted in PMTCT and RCH there are vivid examples of task sharing and task shifting with clear guidance on how to do the tasks. There are guidelines and training package for implementation of tasks that are shared or shifted. For Medical attendant's task sharing seemed motivating and part of job enrichment. Task shifting promotes on job coaching and mentorship. It was learned that MDs said they learn a lot from senior AMOs who did caesarean sections. Medical attendants and CHWs reported to get engaged in PMTCT and RCH activities and to them this is a very important learning platform. On the part of nursing several efficiency increase were identified which enhance more rational scope of practice (Mboineki and Zhang 2018). Little is known as to whether the training systems consider the task shifting components to improve curriculum development.

A significantly larger proportion of health workers in urban and rural facilities are female. This is mainly due to the fact that the nursing cadre, which is predominantly female, contributes to about 41% to the total health workforce.

3.1.4. Human Resources Development

i. Pre and in-service Training

During the period of 2014-2019, more emphasis was placed on the production of middle level cadres and increasing supply of medical doctors whose production was also low compared to the future needs by then. The focus was to increase enrolment of students in order to reach production targets of 15,000 HRH by 2020. In academic year 2017/2018, a total of 17,370 students were enrolled that increased to 18,539 in academic year 2018/2019. This achievement is attributed to government support to training such as joint public and private sector focused attention to the production of middle level cadre.

Table 5: Graduates Allied Health Section

SN	PROGRAMME	2015	2016	2017	T0TAL
1	Advanced Diploma AMO Anaesthesia	3	3	10	**16**
2	Advanced Diploma in Clinical Dentistry	7	10	5	**22**
3	Advanced Diploma in Ophthalmology	10	5	4	**19**
4	Advanced Diploma Clinical Medicine	130	145	97	**372**
5	Advanced Diploma in Vector Control	12	3	0	**15**
6	Diploma in Clinical Medicine	700	810	793	**2303**
7	Diploma in Dental Laboratory Technology	4	5	4	**13**
8	Diploma in Clinical Dentistry (Dental Therapy)	47	46	48	**141**
9	Diploma in Diagnostic Radiotherapy	55			**55**
10	Diploma in Environmental Health Sciences	136	78	58	**272**
11	Diploma In Medical Laboratory Sciences	194	148	228	**570**
12	Diploma in Health Personel Education				**0**
13	Diploma in Occupational Therapy	12			**12**
14	Diploma in Optometry	12	11	13	**36**
15	Diploma in Pharmaceutical Sciences	184	192	103	**479**
16	Diploma in Physiotherapy	20	12	14	**46**
17	Certificate in Clinical Medicine	830	1907	1543	**4280**
18	Certificate in Medical Laboratory Sciences	506	910	624	**2040**
19	Certificate in Health Record Technology	48	37	56	**141**
20	Certificate in Pharmaceutical Sciences	150	221	266	**637**
	TOTAL	**3060**	**4543**	**3866**	**11469**

Private providers have been engaged in training for various levels of certification. This arrangement has had positive contribution in achievements realized to date. Quality management of training is exercised right from selection of students where NACTE manage the selection. Further there are supervision visits which are conducted by MOHCDGEC staff – DHR section.

Still there are limitations in achieving the required numbers of specialists to serve RRHs and the few critical cadres for primary care service delivery such as lab technicians, radiology and pharmaceuticals middle level cadres whose outputs are low. Also there are claims that such arrangements somehow jeopardizes the quality of training (Sirili, Frumence et al. 2019)

ii. Continuous Professional Development

Professional councils continued to focus on which competencies are relevant to various cadres and raising importance of CPD in managing licensing of the professionals. The Tanzania Nursing and Midwifery Council (TNMC) indicated proactive efforts in promoting CPD as compared to other councils. Efforts in improving access to CPD for health staff through use of distance learning is again amongst the important achievement. MOHCDGEC has opened a center for distance learning in Morogoro. Despite intentions to use the ZHRCs as MOHCDGEC technical arms, the centres are still virtual; they are not clearly stipulated in the structure. The zones are not in equal capacity and less is done to improve. The need to harmonize CPD efforts is becoming a strategic concern for several reasons. First to manage the quality of training that is being delivered in terms of content but also tracking the coverage of who has been trained and who has not been trained.

iii. Quality in training institutions

Many programmes are using old curriculum systems. For example, out of existing 19 programs only 4 programs have been approved and their curricula are validated, 8 programs have outdated Curricula and 7 programs don't have proper curricula to support competence based training. This is largely associated with inadequate technical and financial support. Thus increased production of cadres whose training is outdated is somehow a lost investment. Availability of teaching staff is another big challenge. It was noted that the shortage of teaching staff is 62% and 68% for support staff. Training institutions under MOHCDGEC are constrained in almost all aspects. There is a huge difference between the status of infrastructure in public and private training institutions. In some government institutions students stay in dilapidated dormitories with poor water supply and have ill-equipped skill labs. Further there are incomplete or abandoned buildings/projects, poor staff houses and teaching and learning materials

3.1.5. Performance Management of health workers

Globally, 20–40% of all health spending is wasted, with health workforce inefficiencies and weaknesses in governance[5] In order to increase the quality of service delivery in the public sector in Tanzania, the Open Performance Review and Appraisal System (OPRAS) is implemented in the health sector. Staff performance appraisal is currently carried out annually, but is seen to be inadequate to deal with poor quality of health services. Supervisors, managers and even top leadership at ministerial level do not see the performance appraisal as related to the performance of their staff and the achievement of the services they are responsible for. Although the system includes a jointly developed and agreed performance plans with staff and the supervisor. They see it rather as a bureaucratic form filling exercise related to increments and promotion. It has been a challenge to link OPRAS with individual performance in the health sector especially at facility level. This is because majority of the targets are disease based and less management oriented. Leaders need to focus on how best they can stimulate performance culture in service delivery, especially at primary care facilities where majority of population go to. Also,

[5] https://www.who.int/whr/2010/en/

the effort to develop e-OPRAS is still ongoing with PORALG which is envisaged to address some of the performance measurement gaps.

3.1.6. Working environment and attrition

The improvements in government salaries in the previous years, continue to attract staff from NGOs and private sector to join public services. Attracting staff to rural areas have not been a challenge as it was previously reported. However, the challenge has been to retain the skilled staff in rural areas after they have been employed and enrolled into the civil services. Motivation starts when the employee feels that the employer honors the obligations on timely manner. Delays in payment of leave allowances, on call or extra duty due to financial deficit is a common complaint. However, there are continuing complaints for shortages of staff housing and inadequacy of housing allowances. As the on call allowances for doctors are not standardized, there are differences in the total gain from pay working at health centers and referral hospitals. NHIF policies on reimbursements seem to lag behind the changes made on the current recruitment policies. Services provided by MDs who are in health centres and specialists who are in regional referral hospitals are underpaid by NHIF because the payment calculations are not made based on qualifications of provider but by type of facility.

3.1.7. Transfers and Promotions

Frequent public sector requests for transfers and for further training has been one the mechanisms that create staff mobility from underserved regions. On the other hand, following implementation of WISN it has been very difficult for the government to redistribute staff from areas with high numbers to areas with critical shortage due to challenges of financing the transfers. With regards to promotions, the public services procedures tend to treat employees uniformly but without consideration of the specialist needs of unique sectors, such as health. Recruitment and promotions for public servants are the responsibility of PO-PSM. Due to this administrative arrangement the processing of transfers and promotions is cumbersome hence creating delays. Delays in re-categorization of staff after they have gone for further training are also common complaints. The distribution of Health Secretary to all council is an important step for improving HRH management. However, the roles played by the health secretaries in skewed to administration, planning and budgeting and less is done on HRH management.

3.1.8. Task Sharing

Due to HRH shortage, task sharing has been happening and it was the intention of the MOHCDGEC to formalize it. HRH Task Sharing Policy Guideline and Implementation Plan (2014 – 2019) is already in place. Task sharing is seen in all levels and prominent at lower level of health facilities especially at dispensaries and health centers where HRH shortage is higher. There are guidelines and training package for implementation of tasks that are shared or shifted. For Medical Attendants, task sharing seemed motivating and part of job enrichment. Task shifting promotes on job coaching and mentorship. Medical Doctors learn a lot from senior Assistant Medical Officers. Medical attendants and CHWs get engaged in PMTCT and RCH activities and to them this is a very important learning platform. On the part of nursing several efficiency increase were identified which enhance more rational scope of practice (Mboineki and Zhang 2018). Little is known as to whether the training systems consider the task shifting components to improve curriculum development. Task-Sharing should still be considered as a short and medium term solution of addressing HRH shortage.

3.1.9. HRH Research

Several researches were conducted during the period where 2014 -2019. Most of these were donor through development partners' support to NGOs or universities. The results of these studies have been instrumental in guiding strategies and interventions in this HRH strategic planning process. The Ministry of health has no specific research program on HRH. Areas of research needs and agenda for the MOHCDGEC are identified by National Medical Research, little is known about how the process is coordinated and how inclusive it is.

3.2. Key Strategic Issues using SWOT Analysis

The current situation was analyzed to identify key issues necessary for the development of the HRH strategies. The issues are organized in services areas five services areas. Table … presents the HRH issues identified from the analysis

Table 6: SWOT Analysis

Service Areas	Results of the Analysis	
HRH Information	**Strengths**	**Opportunities**
	• HRHIS and TIIS is established and operational in all councils and training institutions respectively	• Data systems are linked to planning
	Weaknesses	**Threats**
	• Not frequently updated to provide reliable up to date information for planning • HRHIS and TIIS inadequately capture key information for RHR planning (attrition rates, professional career development, skills available in the sector against need, equity in distribution of staff, productivity of staff and staff undergoing specialist training)	• Existence of multiple data systems that are not linked together
Planning for HRH	**Strengths**	**Opportunities**
	• Existence of national guidelines for HRH planning (production and recruitment	• Existence of the tool by the government to recalculate staffing needs- WISN • Existence of institutions like health sciences research and teahing at various levels
	Weakness	**Threats**
	• Inadequate use of data HRH planning • HRH planning is found not to receive the required attention. It is used interchangeably with budgeting for personnel emolument.	• Static establishment • Limited financing to meet redistribution costs
HRH Absorption	**Strengths**	**Opportunities**
	• Experience in posting • Dialogues to discuss after first allocation • Gap is known though doubtful	• Inter-ministerial coordination platform under HSS • WISN and WAO systems to guide recruitment and redistribution • PPP policy
	Weakness	**Threats**
	• Limited HRH data use • Limited integration of HRHIS with other management with other management information systems and planning tools • Limited HRH Planning at subnational levels used interchangeably with Personnel Emolument budgeting • Limited decentralization on HR issues (hiring, firing)	• Low productivity and no clear mechanisms to promote individual level accountability at facility level • Static Establishment • lengthy and unwieldy recruitment systems • Several request for further training and transfers and Unwillingness of graduates to continue to work in remote areas
HRH Development	**Strengths**	**Opportunities**
	• Experience in expanding production using PPP arrangements	• PPP policy • Existence of distance learning and e-learning

	• Centralized student selection system	mechanisms – needing upgrade and scale up • Decentralization policy that can be defined further to expand decision space of managers at training institutions • SWAP approach (TWG) – enhancing good HRH partnership
	Weaknesses	**Threats**
	• Low coverage of distance learning (eLearning) • Poor learning environment (Dilapidate buildings, old and ill equipped skill labs, and shortage of tutors) • Lack of clear mechanism within MOHCDGEC to continuously follow up the existing training program curriculum status in terms of their relevance to the health service provision needs • Lack of CPD guidelines to some of the professional councils	• Decreasing interest of donor community on construction
HRH Performance Management, Welfare and Retention	**Strengths**	**Opportunities**
	• Experience in performance management programs exist (Implementation of pay for performance system to promote institutional performance and performance contracts)	• Studies about OPRAS is reported – potentials of Redesign OPRAS and align it with outcomes • Existence of simplified induction guide for LGAs
	Weakness	**Threats**
	• OPRAS is inadequately implemented in the health systems and thus low impact on is not seen individual and systems productivity t has been a challenge to link OPRAS with individual performance in the health sector especially at facility level • Funding for induction	• Official absenteeism is a growing problem due to uncoordinated CPD

3.3. HRH Priorities

The HRH Multisectoral High Level Meeting on November 15th 2019 presented analysis of the current status of HRH in facilities and the situation at Health Training Institutions (HTI), and costed policy options for increase in absorption, production and quality (through strengthening of HTIs) were discussed. On the basis of such discussion and agreed recommendations, the MoHCDGEC in collaboration with Line Ministries, Development partners and CSOs intend to implement the following innovative approaches:

a) Prioritised recruitment for:

i. Newly constructed health facilities
ii. Regions and districts below national average in human resource density
iii. Health training institutions (An achievable goal is 100% could be achieved by hiring approximately 700 more tutors)

b) Improve learning environment at Health Training Institutions

i. Rehabilitate progressively and prioritization of Institutions not functioning
ii. Finalize construction of buildings in training institutions
iii. Develop new and review curriculum fitting modern needs (competence based curriculum)
iv. Expand enrolment of rare cadres
v. Enforce fellowship programme for MMED
vi. Design and implement a special program for community health workers
vii. Impart leaders and health manager's skills on workforce management and governance of HRH

c) Retention

i. Develop and implement innovative retention schemes for healthcare workers in remote and undeserved areas
ii. Non-financial benefits (career pathway)

d) HRH Planning and Information for Decision Making

i. Improve the existing HRHIS, TIIS and WISN to generate quality data for HRH planning including attrition rates, demand for HRH, supply of HRH, needed skills, distribution of staff and staff undergoing training
ii. Enhance implementation of HRH strategy at all levels
iii. Strengthen analytical capacity and utilization of HRH data spot checks at all levels
iv. Improve the scheme of service for HRH to commensurate with new demands of the time

e) HRH Distribution and Management

i. Increase availability of competent qualified health workers at all health delivery points (health facilities) in accordance to actual demands and national standards
ii. Improve utilization, productivity and accountability of health workers at all levels
iii. Improve staff recruitment criteria to reduce limitations and increase teaching staff in health training Institutions and Universities

f) HRH Production and Development

i. Improve health curriculum to accommodate new and emerging health challenges
ii. Improve capacity of tutors, clinical instructors and lecturer in health training institutions in knowledge, skills and appropriate application of competence based curriculum

g) HRH Healthy Workplace and facilities

i. Improve HRH working environment to facilitate productivity enhancement
ii. Improve HRH living conditions to facilitate utilization and productivity

h) Improve HRH financing through:

i. Enhance financing of HRH in health facilities from government and development partners through DHFF modality and development of Health Improvement Fund (HIF)
ii. Enhance sustainable financing for HRH from government, private sector and development partners
iii. Enhance revenue collection and resources mobilization through innovative mechanism and rolling out for mandatory SNHI for sustainable financing of HRH
iv. Increase efficiency use of resources through development of voluntary scheme for health care workers and effective engagement scheme of community health workers

3.4. High Level HRH Indicators

The measurement of progress at all level was conceived critical for effective implementation of HRH Strategy 2020-2025. It is clear that the implementation of activities that will be developed will be

measured using the indicator target contained in this strategy. The attainment of this specific (activities) indicators need to be closely and progressively monitored and evaluated by linking with the high level indicators. The following high level indicators were developed to facilitate the management and continuous improvement of HRH strategy 2020-2025.

a) HRH Planning and Information for Decision Making

i. Density of HRH per 10,000 populations (Clinicians, Nurses and Midwives, Pharmacist, Health Lab)
ii. Regions and Councils with critical shortage of HRH
iii. Advocacy strategy developed and disseminated at all level

b) HRH Distribution and Management

i. % of health facilities with at least two qualified health care workers
ii. % of LGA implementing Makole Model
iii. % of health facilities with health workforce in accordance with HRH staffing norms

c) HRH Production and Development

i. % of training programs that match or surpass position requirements
ii. % of courses devoted to country priority diseases.
iii. % of health training institutions and universities with standard number of qualified instructor per cadre

d) HRH Healthy Workplace and facilities

i. % of Health facilities with good living conditions and working environment for HRH
ii. % of health training institutions with good living conditions and working environment for HRH

e) HRH Strategic Financing

i. % increase in HRH productivity
ii. Rate of improvement in quality of health services provided

Section Four
HRH Implementation Framework

4.1. Objectives, Strategies and Targets

The National RHR Strategy for 2020-2025 provide the overall framework for design and implementation of HRH interventions in the country. It aligns the HRH strategies with other health sector guidelines in ensuring that the health systems at all level has the required number of qualified and competent HRH with the motivation necessary to achieve the intended health outcomes. The strategies are generated for the identified key service areas and tide up to the strategic objective. In other words, the strategies are intended to achieve the strategic objective in relation to the identified issues and gaps for each specific service area.

Table 7: Strategic Objective and strategies per the thematic Areas

Thematic Area	Strategic Objectives	Key Result Area	Strategies	Targets
HRH Information for Decision Making and Planning	1: Strengthen the HRH planning in line with MOHCDGEC functional mandates and in decentralized settings of health service delivery by 2020	1. Availability and Utilization of HRH Information for Planning and performance management	1.1.1 Improve the existing HRHIS, TIIS and WISN to generate information for HRH planning including attrition rates, demand for HRH, supply of HRH, needed skills, distribution of staff and staff undergoing training	HRHIS, TIIS and WISN data improved and used to inform HRH management decisions on an ongoing basis, by each June end of the year
			1.1.2 Improve and Integrate HRHIS and TIIS into existing information and reporting systems DHIS2, HFR, NIDA, GOTHOMIS, POPSM, NACTE, TCU, Professional Councils and other systems	HRHIS/TIIS improved and Integrated with other existing systems in place by end of 2020/21
			1.1.3 Improved staff audit to generate quality and reflective HRH issues through introduction and effective implementation of spot-checks for HRH Data at all levels	Staff audit for HRH at all levels is strengthened
			1.1.4Strengthen analytical capacity and utilization of HRH data at all levels	Analytical capacity and utilization of HRH data at all levels provided annually
				50% of health facility managers in the country trained in operational research skills and vital population statistical data management annually.

		Capacity for HRH Planning	2.1.1 Enhance HRH Planning tools for Health Workforce Planning at national, regional, Council and facility levels	HRH Planning tools for Health Workforce Planning at national, regional, Council and facility levels Are enhanced (through development) by end of June 2021
			2.1.2 Improved training programs to strengthen HRH planning across the sector	Training programs to strengthen HRH planning across the sector are improved through design and development based on the requirements and needs by end of 2021
			2.1.3 Enhance implementation and quality assurance of HRH capacity building programs	Implementation and quality assurance of HRH capacity building programs are enhanced by ensuring that training and monitoring of developed programs are conducted annually
			2.1.4 Improve the scheme of service for HRH to commensurate with new demands of the time	Review the Scheme of service to accommodate all cadres of the Health sector by end of 2022.
		3.HRH Strategic Plan Advocacy and Dissemination at all level	3.1.1 Enhance implementation of HRH strategy at all levels	Develop advocacy strategy for HRH Strategies at levels by 2021
				Disseminate HRH Strategy at all levels by the beginning of 2021
				Conduct annual stakeholders meeting on data dissemination and use
HRH Production and Development	2: Improve availability of qualified and competent human resources at all levels to adequately correspond with current and future health sector needs 2025	1. Pre-service-HRH Development	Increased students' enrolment with deliberate focus on cadres with decreased supply and rare in the market	Students' enrolment with deliberate focus on cadres with decreased supply and rare in the market increased annually
			Strengthen Health Training Institution to provide Training on rare cadres eg Dental, anesthathesia, Physiotherapy, Ophthalmology	Production of rare cadres increased by 2025
			Strengthen linkage between MOHCDGEC, PORALDG (Demand Side) and Training Institutions (Supply Side	Inter-ministerial and TIs coordination strengthened annually
			Strengthen linkage between Professional Councils and Regulatory Bodies (NACTE,TCU)	Joint supervision among Professional Councils and Regulatory Bodies (NACTE,TCU) implemented annually

			Expand opportunities for specialists (including rare specialization) training under conventional system	Opportunities for specialization with much emphasis on rare specialties under conventional system are expanded annually
			Explore further specialization opportunities through the use of fellowship programs on specialized training	Opportunities for specialization are explored to enhance quantity and competences of specialists by 2025
			Enhance effective application of competence based curriculum in training institutions	Effective application of competence based curriculum in training institutions enhanced by 2025
			Improve health curriculum to accommodate new and emerging health challenges	Health curriculum are upgraded and revised to accommodate new and emerging health challenges by 2025
			Enhance competences and scope of practices of health professionals which will guide Training Institution to prepare Curriculum according to the required needs	Health curriculum are prepared and implemented as according to standard set by Professional Councils by 2025
			Improve teaching and learning environments particularly for Teaching Hospitals, skills laboratory & computer laboratories	Teaching and learning environment for Teaching Hospitals, skills & computer laboratories improved by 2023
			Improve capacity of tutors, clinical instructors and lecturer in health training institutions in knowledge, skills and appropriate application of competence based curriculum	Capacity of tutors, clinical instructors and lecturers in health training institutions in knowledge, skills and appropriate application of competence based curriculum improved by 2025
			Improved tutor student ratio in HTIs to commensurate with national and international standards	Tutor student ratio in HTIs to commensurate with national and international standards improved by 2025
		2. On Job-HRH Development	Enhance in-service and continuous education program in response actual HRH and heath sector need	In-service and Continuous education program enhanced and linked to staff and health sector need by 2025
			Improve continuous education through revisions of existing tools and procedures including accreditation and certification of the CPD providers	Continuous education improved through revisions of existing tools and procedures including accreditation and certification of the CPD providers by 2025

			Strengthen the application of National Continuous Professional Development Framework for Healthcare workers	National CPD Framework for healthcare workers strengthened annually/ by 2025
			Strengthen monitoring and assessment of Continuous Professional Development (CPD) to enhance competencies	Monitoring and assessment of Continuous Professional Development (CPD) strengthen through effective engagement of Professional regulatory bodies annually/ by 2025
			Enhance the use of eHealth (telemedicine, e-learning etc) in the provision of Continuous Professional Development (CPD)	The use of eHealth (telemedicine, e-learning etc) in the provision of Continuous Professional Development (CPD) enhanced by 2025
			Intergrade the Continuous Professional Development (CPD) into OPRAS using existing systems	CPD integrated into OPRAS using existing systems by 2025
			Review existing community based practices (eg. Uturo Model) to develop a generic model that is scalable countrywide to enhance the impact of community health	Existing community based practices (eg. Uturo Model) are reviewed to develop a generic model that is scalable countrywide to enhance the impact of community health by 2025
			Strengthen HRH capacity in field epidemiology to enhance responses on outbreaks, preparedness, border health, and other public health emergencies including accidental injuries, occupational health, NCD like aflatoxicosis and food poisonings	Capacity of HRH in epidemiology strengthened by 2025
HRH Distribution and Management	3: Improve the recruitment, deployment and retention of health workers through the use of context specific sound interventions to ensure equitable (need based) distribution of health work force at all levels of the health	HRH available at all levels with optimal skills mix	Increase availability of competent qualified health workers at all health delivery points (health facilities) in accordance to actual demands and national standards	Availability of competent qualified health workers at all health delivery points in accordance to actual demands and national standards by 2023
			Enhance equitable distribution of HRH in line to the MOHCDGEC guidelines and in relation to the context specific needs	Equitable distribution of HRH in line to the MOHCDGEC guidelines and in relation to the context specific needs enhanced by 2024
			Enhance volunteerism for increasing efficiency and cost cut in health service delivery through development of guidelines and tools	The National Health Workforce Volunteerism Guidelines in Place and disseminated by 2021

	sector by 2025	Community Health	Increased utilization of Community Health Workers by enhancing community awareness on community health services	Review and scale up community practices including Uturo Model by 2023
			Enhance effective engagement of Community Health Workers through development of scheme and policy guidelines	Effective engagement of Community Health Workers through development of scheme and policy guidelines by 2021
				Community health governance systems are provided with guidelines and mandates to oversee quality and quantity of health services delivery by 2023
		Distribution HRH managers use modern technics in making evidence based decisions for HRH distributions.	Technology – Enhance modern technology in distribution of HRH	Modern technology in distribution of HRH enhanced by 2025
			Deployment - Use of evidence based decision making to enhance equitable distribution on HRH in the Public Sector	Evidence based decision making for equitable distribution of HRH in the Public Sector enhanced by 2025
			Improving PPP – Involve private health sector players in enhancing the availability development and deployment of HRH	Private Health Sector players in enhancing the availability development and deployment of HRH involved by 2025
		Utilization HRH productivity is optimized through the use of strengthened performance Management systems	Increase productivity of HRH to the optimal level through effective use of performance management tools like OPRAS and other performance review technics EG: 360 degrees' performance review methodology.	HRH productivity to the optimal level through effective use of performance tools increased by 2025
		Health Governance	Improve utilization, productivity and accountability of health workers at all levels .	The Makole Model reviewed and scaled up at all levels by 2025
			Decentralize modern supportive supervision skills to the primary health facilities level.	Modern supportive supervision skills practiced in primary health facilities levels by 2023
			Enhanced capacity of HRH Department, Planning, Leadership and coordination to enhance transparence and accountability.	HRH department capacity on Planning, Leadership and coordination enhanced by 2025

			Enhance implementation of health policy and sustainable development goals by health training institutions	Training institutions management process are reviewed and aligned with health policy and sustainable development goals by 2020/23
			Leadership and managerial skills imparted to all Heads of Units, sections, Departments and Directorates.	Heads of Units, sections, Departments and Directorates imparted with leadership and management skills by 2022
			Strengthen involvement of stakeholders in resource mobilization for support implementation of local incentive schemes	Involvement of stakeholder in resource mobilization for HRH retention schemes strategized and included into incentives guide by 2023
			Enhance capacity of managers in hospitals, primary health facilities and other health institutions on supportive supervision, innovative leadership and in developing customized local incentive packages for attraction and retention of staff	Capacity of managers in hospitals, primary health facilities and other health institutions on supportive supervision, innovative leadership and in developing customized local incentive packages for attraction and retention of staff enhanced by 2023
			Improve capacity of Health Facilities Boards and Committees to facilitate management of health facilities and responsive health services to make them more responsive to the needs of customers.	Capacity of Health Facilities Boards and Committee to facilitate management of health facilities and responsive health services improved by 2024
			Improve capacity of RHMTs and CHMT on dissemination, supportive supervision and innovative leadership	Capacity of RHMTs and CHMT on dissemination, supportive supervision and innovative leadership improved by 2025
			Improve capacity of the Health Facility governing structures (HMT and HFGC) on managing and running health facilities.	Capacity of the Health Facility governing structure in managing and running health facilities improved by 2025
			Strengthen Inter-ministerial coordination forums to share updates, challenges and strengths	Inter-ministerial coordination forums to share updates, challenges and strengths should be strengthened by 2025
			Improve staff recruitment criteria to reduce	Review and update staff recruitments

			limitations and increase teaching staff in health training Institutions and Universities.	criteria for Health Training Institutions to fit with current demand of the time by 2023
			Enhance joint supportive supervision between MOHCDGE, NACTE,TCU and professional councils	Joint supportive supervision between MOHCDGE, NACTE,TCU and professional councils enhanced by 2022.
HRH Healthy Workplace and Facilities	4. Improve working environment, living conditions and facilities for HRH by 2025	Working Environment	Enhance availability of safety supplies, machines, tools and social protection to HRH in health facilities and health training institutions and universities.	Availability of safety supplies, machines, tools and social protection to HRH in health facilities and health training institutions and universities enhanced by 2025.
			Enhance availability of medical equipment, supplies and other accessories necessary for delivery of quality health services in health facilities.	Availability of medical equipment, supplies and other accessories necessary for delivery of quality health services in health facilities and health training institutions and universities by 2025
			Enhance availability of improved Infrastructure necessary for delivery of quality services in health facilities and health training institutions.	Availability of improved Infrastructure necessary for delivery of quality services in health facilities and health training institutions enhanced by 2023 .
		Living environment	Improve living conditions of HRH in health facilities and health training institutions.	Living conditions of HRH in health facilities and health training institutions by 2023
HRH Strategic Financing	5. Strengthen mobilization of HRH financing from government, local based community stakeholders such as WDC, business companies (corporate social responsibility resource mobilization) and development partners locally and	Investment on HRH	Enhance sustainable financing for HRH from government and development partners	Sustainable financing for HRH from government and development partners enhanced by 2025
			Strengthen HRH Financing from government and development partners through the DHFF modality	HRH Financing from government and development partners through the DHFF modality strengthened by 2025
		Revenue Collection and Resources Mobilization	Enhance revenue collection and Resources Mobilization through innovative mechanism and rolling out for mandatory SNHI for sustainable financing of HRH	revenue collection and Resources Mobilization through innovative mechanism and rolling out for mandatory SNHI for sustainable financing of HRH enhanced by 2025
			Enhance volunteerism for increasing efficiency and cost cut in health service delivery	Volunteerism for increasing efficiency and cost cut in health service delivery enhanced by 2025

	internally to adequately implement HRH interventions by 2025		Enhance solicitation of community contributions and corporate social responsibilities for construction of staff housing and maintenance	Community contributions and corporate social responsibilities for construction of staff housing and maintenance enhanced by 2025
		Financial accountability and Transparency	Improve public health response and financial management through strengthening the Health Sector M & E including data quality, use and dissemination	Public health response and financial management through strengthening the Health sector M & E including data quality, use and dissemination improved by 2025
			Improve financial management process in health care facilities to enhance revenue collection and efficient utilization of financial resources	Financial management processes in public Health care Facilities improved by 2023
			Strengthen facilities revenue collection and expenditures system	facilities revenue collection and expenditures system improved by 2025
			Strengthen financial accountability and HRH productivity in health facilities at all levels	Makole Model and other relevant practices are reviewed to develop a more hybrid and comprehensive model and scaled up for financial accountability and HRH productivity in health facilities at all levels

4.2. Estimate Cost for Implementation of HRH Strategy 2020-2021

The estimates cost was established based on full expansion to the targets set for different HRH interventions areas for vital interventions, partial scale-up for essential interventions, and maintenance of interventions deemed nice to have[6]. It was conceived as the primary bases for purposes of establishing the HRH Strategy 2020-2021 resource needs analysis, as it reflects a streamlined package of interventions designated for expansion and can be accommodated by the most likely resource envelope scenario.

Table 8. HSSP V costs (TZS billions) by programme and health system component

Theme	2021	2022	2023	2024	2025	Total
HR	1,213.32	1,330.11	1,453.68	1,585.87	1,730.78	7,313.76

[6] Vital interventions are absolutely necessary for maintaining public health of the population, Essential interventions are crucial for maintaining improvement of individual health, and Nice to Have interventions are relevant for health and wellbeing.

Section Five
Monitoring and Evaluation

5.1. Introduction

HRH strategy will be monitored and evaluated to determine progress and the extent to which it is realizing the HRH shortage and problems. Evaluation is designed to inform the implementation process and generate information for improvement. Monitoring and evaluation is designed be done at different levels and different existing structures and forums. Both monitoring HRH strategy 2020-2025 will be aligned with the monitoring of the HRH strategy with annual planning process and will be the integral part of the mi-year budget review.

The monitoring of HRH strategies will also be the main agenda of the HRH Technical Working Group (HRH-TWG). Through TWG HRH indicators will be discussed on monthly basis to determine the implementation process of the HRH strategy 2020-2025 and provide guidance for improvement (if any) and acknowledges achievement made at the relevant time. The HRH Strategy 2020-2025 will be further discussed on annual basis in the Technical Review Meetings and in the Joint Annual Health Sector Technical Review Meetings. The HRH policy recommendations will be discussed in policy meetings and integrated into MTF and annual budget guidelines.

Specific and in-depth evaluation of the HRH Strategy 2020-2025 will be done at the mid and at end of implementation process. Evaluation will be guided by the overall goal of the Health Sector Strategic Plan V- 2020-2025 as also reflected in the revised Health Policy. Evaluation will be done based on the indicators developed for each strategy. In the monitoring and evaluation component contained in the HRH strategy 2020-2025, some sources of information have been highlighted to facilitate the evaluation process. However, the evaluator will be free to consult more sources as deemed relevant and necessary at the time of evaluation.

Table 8 present indicators designed to measure progress at outcomes level results. The impact level indicators will be assessed through the Health Sector Strategic Plan V: 2020-2025 using the following measurement indicators:

Health system	Health workforce density / core health professionals	HRHIS
	Outpatient and inpatient service utilization per 100 population	DHIS2, as indicator of service access
	Emergency obstetric and newborn care access per 10,000 pregnant women	DHIS2, facility surveys

It is important to notice that the national HRH strategy 2020-2025 is aligned with the HSSP V: 2020-2025.

Table 8: Activities matrix to implement the HRH strategies and Indicators

Thematic Area 1: HRH Information for Planning **Strategic Objective 1:** Strengthen the HRH planning in line with MOHCDGEC functional mandates and in the decentralized settings of health service delivery by 2020				
Key Results Areas	**Strategy**	**Indicators**	**Means of Verifications**	**Sources of Information**
Availability and Utilization of HRH Information for Planning and performance management	Improve the existing HRHIS, TIIS and WISN to generate quality data for HRH planning including attrition rates, demand for HRH, supply of HRH, needed skills, distribution of staff and staff undergoing training	% HRHIS, TIIS and WISN data are accurate, complete and timely updated	Reports with updated HRH information	HRHIS, TIIS and WISN
	To improve and Integrate HRHIS and TIIS into existing information and reporting systems DHIS2, HFR, NIDA, GOTHOMIS, POPSM, NACTE, TCU, Professional Councils and other systems to facilitate data use	% of HRHIS, TIIS and WISN data utilized for decision making	HRH plans and reports	HRHIS, TIIS and WISN
	Improved staff audit to generate quality and reflective HRH issues through introduction and effective implementation of spot-checks for HRH Data at all levels	Functional integrated HRHIS/TIIS with other existing systems in place	Report of integration of HRH	HRHIS/TIIS
	Strengthen analytical capacity and utilization of HRH data spot checks at all levels	% of HRH with knowledge and skills on analytical capacity and utilization of HRH data	Staff audit report	HRH information Systems
		% of health facility managers trained in operational research skills and vital population statistical data management.	Research reports	DHIS2, HRHIS
Capacity for HRH Planning	Enhance HRH Planning tools for Health Workforce Planning at national, regional, Council and facility levels	% of HRH planning tools used for health workforce planning at national, regional, Council and facility levels	Report of tools developed Health workforce plans	Training report Health workforce plans
	Improved capacity of HRH to strengthen HRH planning across sector	% HRH capacitated on HRH planning across sectors	Capacity building reports	HRH planning reports
	Enhance implementation and quality assurance of HRH capacity building programs	% of capacity building programs implemented	Capacity building reports Quality assurance reports	Report on implementation of HRH capacity building programs

		% quality assurance events conducted		Report of the quality assurance
	Improve the scheme of service for HRH to commensurate with new demands of the time	Updated scheme of service with all relevant cadre required by the health sector in place	Updated scheme of services	Report of the review of the HRH scheme of service HRHIS report
3.HRH Strategy Advocacy and Dissemination at all level	3.1.1 Enhance implementation of HRH strategy at all levels	HRH Advocacy strategy in place	HRH Advocacy strategy	Implementation reports
		Number of advocacy meetings conducted	Report of implementation meetings	HRH strategy 2020-2025 advocacy reports
		% of councils and regions reached for dissemination of HRH strategy 2020-2025	Meetings/workshop implementation reports	HRH strategy 2020-2025 dissemination report
		% of stakeholders reached for data dissemination and use	Workshops reports	Report of dissemination and data use for HRH strategy 2020-2025
Thematic Area 2: HRH Production and Development **Strategic Objective 2:** Improve availability of qualified and competent human resources at all levels to adequately correspond with current and future health sector needs 2025				
Key Results Areas	**Strategy**	**Indicators**	**Means of Verifications**	**Sources of Information**
Pre-service-HRH Development	Increased students' enrolment with deliberate focus on cadres with decreased supply and rare in the market	% increase of student enrolment	List of student enrolled and trained report Training report	NACTE report
	Strengthen linkage between MOHCDGEC, PORALDG (Demand Side) and Training Institutions (Supply Side)	Number of ministerial forums established and implemented	Report of coordination meeting Training report	Ministries report TCU and NACTE report
	Expand opportunities for specialists (including rare specialization) training under conventional system	% of Medical Doctors enrolled in various rare specialty	- List of medical Doctors trained in rare specialist - Training report	Medical Councils of Tanganyika Registration report
	Explore further specialization opportunities through the use of fellowship programs on specialized training	Number of fellowship awarded for specialized program	List of fellowships	Medical Councils of Tanganyika Registration report
	Enhance effective application of competence based curriculum in training institutions	% of health training institutions effectively applying competence based curriculum	List of curriculum revised	NACTE & TCU report
	Improve health curriculum to accommodate new and emerging health challenges	% of existing health curriculum revised and upgraded to accommodate new emerging health challenges	Report of teaching and learning facilities improved	MOHCDGEC report
	Enhance competences and scope	% of health curricular with	Curricula review report	Health Training Institution

	of practices of health professionals which will guide Training Institution to prepare Curriculum according to the required needs	competences and scope of practices (eg skills laboratory & computer laboratories) that correspond to the required needs		Report
	Improve teaching and learning environments particularly for Teaching Hospitals, skills laboratory & computer laboratories	% of Health Training Institutions and universities with adequate teaching and learning environment (including Teaching Hospitals, skills laboratory & computer laboratories)	Health Training Institution Report	Profile of Health Training Institutions and universities MOHCDGEC report
	Improve capacity of tutors, clinical instructors and lecturer in health training institutions in knowledge, skills and appropriate application of competence based curriculum	% of tutors, clinical instructors and lecturer in health training institutions with knowledge, skills and appropriate application of competence based curriculum	Capacity building intervention report	MOHCDGEC Health Training Institutions
	Improved tutor student ratio in HTIs to commensurate with national and international standards	% of health training institutions with tutor and students ratios that commensurate with national and international standards	- Report of recruitment of new tutors - Health training institution report on manning level	Health training institutions profile reports
On Job-HRH Development	Enhance in-service and continuous education program in response actual HRH and heath sector need	% of in-service and continuous education program that addresses the actual HRH and heath sector need	Report of curriculum for in-service and continue education program	MOHCDGEC report
	Improve continuous education through revisions of existing tools and procedures including accreditation and certification of the CPD providers	% of existing tools and procedures including accreditation and certification of the CPD providers revised	Professional Regulatory Authorities and Councils report	MOHCDGEC report
	Strengthen the application of National Continuous Professional Development Framework for Healthcare workers	% of carders assessed for CPD competencies	Report of Regulatory Professional bodies	MOHCDGEC report
	Strengthen monitoring and assessment of Continuous Professional Development (CPD) to enhance competencies	# of monitoring and assessment of CPD conducted % of CPD provider accredited	Report of Accreditation and Certification of the CPD provider	MOHCDGEC training report
	Enhance the use of eHealth	% of CPD provided using	Report of CPD conducted through	MOHCDGEC training report

	(telemedicine, e-learning etc) in the provision of Continuous Professional Development (CPD)	immerging technologies	immerging technologies	
	Integrate the Continuous Professional Development (CPD) into OPRAS using existing systems	% of CPD conducted for Health workers assessed through OPRAS	Reports of OPRAS linked with CPD	MOHCDGE, RMO,DMO report
	Review existing community based practices (eg. Uturo Model) to develop a generic model that is scalable countrywide to enhance the impact of community health	Hybrid and comprehensive health community based model in place	Report of Community based delivery implementation practiced and identified	MOHCDGE, RMO,DMO report
	Strengthen HRH capacity in field epidemiology to enhance responses on outbreaks, preparedness, border health, and other public health emergencies including accidental injuries, occupational health, NCD like aflatoxicosis and food poisonings	% of qualified HRH graduating from advanced Field Epidemiology and Laboratory Course % of qualified HRH graduating from intermediate Field Epidemiology Course Number of HRH trained on Field Epidemiology as frontiers	Training Reports	MOHCDGEC, RMO, DMO, PORALG
Thematic Area 3: HRH Distribution and Management **Strategic Objective 3**: Improve the recruitment, deployment and retention of health workers through the use of context specific sound interventions to ensure equitable (need based) distribution of health work force at all levels of the health sector by 2025				
Key Results Areas	**Strategy**	Indicators	Means of Verifications	Sources of Information
HRH available at all levels with optimal skills mix	Increase availability of competent qualified health workers at all health delivery points (health facilities) in accordance to actual demands and national standards	% of health services delivery points with adequate number of HRH with competences to deliver quality health services	Staff retention surveys	Staff retention survey report Staff recruitment reports Institution Staffing profile reports
	Enhance equitable distribution of HRH in line to the MOHCDGEC guidelines and in relation to the context specific needs	% increase of training institutions using improved training curriculum	Curriculum quality checks	Health training Institutions reports
	Enhance volunteerism for increasing efficiency and cost cut in health service delivery through development of guidelines and tools	- % of health facilities using volunteers - Guidelines and tools in place to guide volunteers practice in service delivery	Training needs assessment surveys	Training Assessment Reports

		- % reduction of cost for service delivery		
Community Health	Increased utilization of Community Health Workers by enhancing community awareness on community health services	% decrease on health cases from community that are within the capacity of CHW to manage	MTUHA book 5	DHIS2
	Enhance effective engagement of Community Health Workers through development of scheme and policy guidelines	- % decrease in HRH shortages in service delivery points - % Increase of volunteer in service delivery points - % of community health governance systems utilizing existing guidelines to executive mandated role of overseeing quality and quantity of health services delivery	List of volunteers at service delivery points Report of the development of guidelines Performance reports	HRH annual Vacancy rate reports Annual supportive supervision reports Annual Health Sector Performance Report
Distribution HRH managers use modern technics in making evidence based decisions for HRH distributions.	Enhance modern technology in distribution of HRH	% of health facilities and structures using modern technology for distribution of HRH	Report of HRH distribution	HRHIS and HTIIS
	Enhance the use of evidence based decision making to enhance equitable distribution on HRH in the Public Sector	% Decrease of health facilities and services delivery point with acute shortage of HRH	MTUHA book No. 5 Death registers	DHIS2
	Improving PPP – Involve private health sector players in enhancing the availability, development and deployment of HRH	- % increase in stakeholder involvement in the support to ensure HRH availability, deployment and development - % decrease shortage of HRH at council and regional levels	Stake holder mapping reports	PPP reports
HRH productivity	Increase productivity of HRH to the optimal level through effective use of performance management tools like OPRAS and task focused evaluation techniques Institutionalize continuous	% HRH assessed on performance using OPRAS	WISN +POA usage coverage reports	HRH distribution reports

	performance assessment procedures Include the thematic area of TIME MANAGEMENT SKILLS in leadership training curricula			
Health Governance	Improve utilization, productivity and accountability of health workers at all levels	% increase in HRH productivity	Staff performance reports	Institutional staff performance reports
	Decentralize modern supportive supervision skills to the primary health facilities level.	% of dispensaries supervised by health centers	Supervision reports	DHIS2
		Number of tools to facilitate transparence in place and practiced	Report of the development of the tool and implementation	MOHCDGEC
	Enhanced capacity of HRH Department, Planning, Leadership and coordination to enhance transparence and accountability. Include LEADERSHIP COMMUNICATION THEMATIC AREA in leadership training curricula	% of stakeholders at all levels using improved Makole Model	Report of the application of Makole model	Service facility performance reports
	Enhance implementation of health policy and sustainable development goals by health training institutions	% of health training institutions using management process that aligned to health policies and sustainable development goals	Complains handling report	Complains management report
	Strengthen involvement of stakeholders in resource mobilization for support implementation of local incentive schemes	- % of stakeholders participating in resource mobilization to support implementation of local incentive schemes - % increase of resources for implementation of local incentive schemes	Report of the resource mobilization	Institutions HRHIS and HTIIS
	Enhance capacity of managers in hospitals, primary health facilities and other health institutions on supportive supervision, innovative leadership and in developing	- % of health managers in hospitals, primary health facilities and other health institutions with knowledge and skills on supportive supervision, innovative	- Assessment report of health manager's capacity on supportive supervision, innovative leadership and in developing customized local incentive packages	Staff retention survey report

	customized local incentive packages for attraction and retention of staff	leadership and in developing customized local incentive packages for attraction and retention of staff - % increase in retention of staff in all service delivery points	- Institutions/employers implementing customized local incentive schemes	
	Improve capacity of Health Facilities Boards and Committee through clear definition of mandates and powers of such managerial units to facilitate management of health facilities and responsive health services	- % of health facilities with Health Facilities Boards and Committee with adequate capacity to facilitate management of health facilities and responsive health services - % increase of community participation in the management of health facilities	Assessment report of health facilities boards and committees and community participation in the management of health facilities	DHIS 2, HRHIS, PlanRep
	Improve capacity of RHMTs and CHMT and Health Centres on dissemination, supportive supervision and innovative leadership	% of RHMTs and CHMTs effectively disseminating policies, guidelines and implementing supportive supervision and innovative leadership	Capacity building reports	HRHIS, TIIS and WISN
	Improve capacity of the Health Facility governing structures (HMT and HFGC) on managing and running health facilities.	% of health facilities governing structures (HMT and HFGC) with adequate knowledge and skills in managing health facilities effectively and efficiently. % of HFGC conducting quarterly meetings as stipulated in the guidelines	Training reports Certificate of participation Quarterly reports meetings	MoHCDGEC Health facility
	Strengthen Inter-ministerial coordination forums and information focal points or persons to share updates, challenges and strengths	% of officials in relevant departments informed on new HRH updates, challenges and strengths	Inter-ministerial meeting report	MOHCDGEC PORALG

	Improve staff recruitment criteria to reduce limitations and increase teaching staff in health training Institutions and Universities.	% of health training institutions and universities with adequate number of required academic (teaching) staff	Report of the review of recruitment criteria Recruitments reports	MOHCDGE, Universities
	Enhance joint supportive supervision between MOHCDGE, NACTE,TCU and professional councils	Number of joint supportive supervision conducted.	Joint supportive supervision reports	MOHCDGE, NACTE,TCU and professional councils
Thematic Area 3: HRH Healthy Workplace and facilities. **Strategic Objective 3**: Improve working environment, living conditions and facilities for HRH by 2025.				
Key Results Areas	**Strategy**	**Indicators**	**Means of Verifications**	**Sources of Information**
Working Environment	Enhance availability of safety supplies, machines, tools and social protection to HRH.	% of health facilities with availability of safety supplies, machines and tools as per SOP stipulation.	Medical equipment inventory	MEIS/HFR
		% of HRH received psychosocial support among those encountered psychosocial related problem including GBV	MVC MIS reports	MVC MIS
	Enhance availability of medical equipment, supplies and other accessories necessary for delivery of quality health services in health facilities.	% of health facilities with availability of medical equipment, supplies and other accessories as per SOP stipulation.	Medical Equipment inventory	QPR, MEIS
	Enhance availability of improved Infrastructure necessary for delivery of quality services in health facilities and health training institutions.	% of health facilities and training institutions with improved infrastructure	Construction and rehabilitation Reports	HFR
Living environment	Improve living environment of HRH in health facilities and health training institutions.	% of HRH provided with accommodation services, basic social amenities and utilities.	Inventory report	SARA report
Thematic Area 4: HRH strategic Financing **Strategic Objective 4:** Strengthen mobilization of HRH financing from government and development partners locally and internally to adequately implement HRH interventions by 2025				
Key Results Areas	**Strategy**	**Indicators**	**Means of Verifications**	**Sources of Information**
Investment on HRH	Enhance sustainable financing	% increase in HRH investment	Financial Reports	HRH data

	for HRH from government, private sector and development partners	from all key HRH stakeholders (government, non-state actors and development partners.) % of vacancies filled by investments from the government and partner % of budget allocated to human resources management (HRM) or human resources development (HRD) annually	Progress reports End of project report	HRHIS PE budget HSRS MoU progress reports end of project report
	Enhance financing of HRH in health facilities from government and development partners through DHFF modality	% government, private sector and development partners funds for HRH channeled through DHFF modality	Financial Reports Progress reports	FFARS MUSE HRHIS HSRS
Revenue Collection and Resources Mobilization	Enhance revenue collection and Resources Mobilization through innovative mechanism and rolling out for mandatory SNHI for sustainable financing of HRH	% increase in revenue collections from own sources	Annual Financial Reports, Revenue reports	FFARS GoTHOMIS
		% of resource mobilization strategies implemented	Annual HRH Repots Revenue reports	HRHIS GoTHOMIS
	Enhance volunteerism for increasing efficiency and cost cut in health service delivery	- % of volunteers available - % of cost cut through volunteerism	Annual Financial Reports HRH Reports	HRHIS HSRS
	Roll out the mandatory SNHI that will ensure increased resources to support HRH	% of population enrolled with SNHI	SNHI reports	SNHI reports
	Enhance solicitation of community contributions and corporate social responsibilities for construction of staff housing and maintenance	% Increase of revenue collection from community contribution and corporate social responsibility	Annual Financial Reports, Revenue reports	Community Mobilization and contribution reports Report of the collective social responsibilities
Financial accountability and Transparency	Improve public health response and financial management through strengthening the Health sector M & E including	% of quality data available, disseminated and use for development of health interventions and	DQA Reports, HMIS Data, plans and budgets,	Quarterly DQA Reports, HMIS Reports, plans and budgets,

	data quality, use and dissemination	accountability		
	Improve financial management process in health care facilities to enhance revenue collection and efficient utilization of financial resources Facility managers and Departmental heads are giving short courses on financial management skills to ensure correct record keeping, transparency and accountability.	% of health care facilities with improved financial management processes.	Annual financial reports	FFARS GoTHOMIS MUSE
		% increase in revenue from collections % of health facility managers and departmental heads correctly practicing financial management, record keeping, transparency and accountability	Annual financial reports	FFARS GoTHOMIS
		Proportion of Health Care Facilities with efficient utilization of financial resources	Annual financial reports	FFARS
	Strengthen facilities revenue collection and expenditures systems for HRH.	- % facilities installed revenue collection and expenditures systems - % increase in revenue collection through electronic systems - % of expenditure in HRH interventions	Implementation reports Income and Expenditure reports	FFARS MUSE GoTHOMIS
	Strengthen financial accountability and HRH productivity in health facilities at all levels	% increase in Health care Facilities applying the customized and scale up transparent and accountability Model	Health Facility Reports	Accountability Information System

Section Six
Implementation Arrangement

6.1. Management of Implementation of HRH Strategy 2020-2025

The experience from the implementation of previous HRH strategies called for a more innovative approach to ensure implementation of significant number of HRH strategy in a more effective and efficient way. In this regard, key aspects for implementation of HRH strategy 2020-2025 were identified for careful and adequate consideration to facilitate its effective implementation. The overall implementation of the HRH strategy 2020-2025 will be governed by key principles presented in table 8.

Table 9: Guiding Principle for Implementation of HRH strategy 2020-2025

1. Equity in the Distribution of Health Workforce	• Equity in the distribution of the core health workforce to ensure that imbalances in the rural and urban set up are addressed
2. Appropriate coordination within government sectors and with non-state actors	• The implementation of the strategy will be done in a manner that inputs of various Government Agencies and partners involved in HRH planning, management and development is well coordinated for efficiency gain
3. Cost-effectiveness	• The HRH Strategic Plan will be implemented using the most efficient and cost-effective systems which will guarantee value for resources used
4. Embracing Partnerships	• Implementation of HRH strategic interventions will be done in such a way that it takes full advantage of the synergies provided by each stakeholder. Deliberate efforts will be made to ensure that central ministries, Regions, councils Non-Governmental Organizations, and the communities play vital roles. , Offices, Health Facilities, Development Partners, health sector
5. Harmonization with Macro Plans	• Mechanisms will be developed to ensure that the implementation of the HRH plan is aligned and harmonized with the National Development visions, National Health Strategic Plan and other relevant non-health sector ministries
6. Effective decentralization	• All stages of health care delivery will be effectively engaged to catalyze their meaningful participation in strengthening workforce planning, recruitment and deployment of HRH in an equitable manner, creating a conducive workforce environment and applying appropriate performance management systems.

6.2. Key Assumptions/Enabling Factors

The assumption underlying the implementation of HRH strategy 2020-2025 have been identified to guide key stakeholders to adequately play their key roles to enable the HRH strategy 2020-2025 realize its intended results. The assumption calls for a holistic and collaborative approach from key stakeholders to create a conducive environment that facilitate implementation of specific strategies contained in the HRH strategy 2020-2025. The key assumptions for HRH strategy 2020-2025 are thus- it is assumed that there will be:

- Continued political stability and stakeholder goodwill towards the health sector
- Continued commitment to the realization of health sector goals as articulated in the National policy and the Health Strategic Plan
- Macroeconomic stability and sustainable economic growth
- Increased and sustained funding from the Ministry of Finance and Development Partners for all HRH programs- as health remains as a national priority
- Availability of skilled and motivated health workers in the labor market in line with the aspirations of the National Health and Human Resources for Health Strategic Plan

6.3. Roles of Stakeholders in the Implementation of the HRH Strategy 2020-2025

HRH strategy provide a health sector wide framework for addressing the HRH shortage and problems. The HRH strategy recognize that HRH issues are huge and that government capacity is inadequate to address it all. Thus, this strategy calls for stakeholders at different levels to compliment the government efforts to facilitate effective implementation of the HRH strategy. It is envisaged that the following stakeholders will play a key role in implementing or facilitating implementation of the HRH strategy.

i. Role of President's Office - Public Service Management and Good Governance(PO-PSMG)

The President's Office (Public Service Management) is the overseer of the human resource national policies in the country. The roles of the PO-PSMG are:

a) Improve HR management capability and efficiency in public service
b) Enhance public service and ethics
c) Improve human resource development and gender equality
d) Disseminate policies relevant to HR; and
e) Monitor implementation of HR policies.

ii. Roles of the Ministry of Health, Community Development, Gender, Elderly and Children

a) Formulate and review HRHSP.
b) Monitor and evaluate implementation of HRHSP by setting standards and performance indicators.
c) Formulate and review implementation HRH plans
d) Strengthen the recruitment, deployment, placement, and retention process to ensure equitable distribution of HRH at all levels.
e) Strengthen collaboration and coordination among HRH stakeholders and other sectors.
f) Oversee the standards on quality of training, registration, and certifications.
g) Facilitate pre-service and in-service training, post-graduate training, internship and continuous professional development.
h) Advocacy and dissemination of HRHSP at all levels.
i) Provide technical and financial support and trainings on HRH component
j)

iii. Roles of the President's Office – Regional Administration and Local Government

a) Strengthen the recruitment, deployment, placement, and retention process to ensure equitable distribution of HRH at primary levels.
b) Facilitate and coordinate preparation of HRH planning and budgeting
c) Improve the working environment for staff at all levels and remunerate HRH.
d) Strengthens induction and orientation of newly hired, appointed HRH and improve conditions of service.
e) Strengthen HRH supervision to oversee the implementation of HRHSP.
f) Advocacy and dissemination of HRHSP at primary levels.

iv. Roles of Training Institutions

a) Review and do needs assessments of the present training curricula to identify gaps in competence training and performance management

b) Design appropriate, competency-based training programmes and courses to improve skills of health care workers.
c) Conduct monitoring and evaluation of implementation of training plan in collaboration with other key actors, such as RHMTs and CHMTs.
d) Keep records of graduates trained.
e) Conduct research and utilize evidence to improve health care worker competencies and performance.
f) Design and implement continuous development programmes
g) Conduct supportive supervision at the level of service delivery within the designated catchment areas

v. Roles of Regional Secretariats and Local Government Authorities

a) Translate and implement HRH policies and guidelines at their respective levels.
b) Ensure financial and administrative support of health care workers according to government regulations.
c) Identify training needs and prepare plans and budgets for human resource development.
d) Apply data from the HRHIS database to make informed decisions regarding to HRH.
e) Implementation of HRHSP in their respective levels
f) Improve the working environment for staff at their respective levels.
g) Conduct induction and orientation of newly hired, appointed health care workers and improve conditions of service.
h) Strengthen HRH supervision to oversee the implementation of HRHSP at LGAs level.
i) Coordinate expected and potential contributions by the Private Sector, Corporate Social Responsibly and Community Based Systems

vi. Roles of Development Partners

a) Provide technical and financial support to HRH activities according to national priorities.
b) Assist in the implementation of specific aspects of the HRHSP in partnership with the government and stakeholders.
c) Support resources mobilisation for HRH

vii. Roles of NGOs and Private Sector

a) Establish partnerships with the government and other stakeholders to implement and share experiences regarding HRHSP.
b) Compliment the government efforts through the implementation of HRH interventions inline to national priorities.
c) Provide technical and financial assistance and trainings on HRH component

viii. Roles of Professional Councils

a) Register health professionals in collaboration with accreditation bodies TCU, NACTE, and the Vocational and Educational Training Authority (VETA))
b) Develop and/or update scopes of practices for respective cadres.
c) Ensure that professionals adhere to professional norms, codes of conduct and ethics, and scopes of practice.
d) Support professional development initiatives.
e) Conduct supportive supervision and inspection of professional cadres

ix. Roles of Professional Associations

f) Ensure development of members of the professional association by supporting training, research, and scientific meetings and forums.
g) Advocate to their members the implementation of the HRHSP.
h) Provide feedback to the sector on the implementation of HRHSP by their members.
i) Advocate continuous professional development

Bibliography

1) Mboineki, J. F. and W. Zhang (2018). "Healthcare Provider Views on Transitioning From Task Shifting to Advanced Practice Nursing in Tanzania." Nursing Research 67(1): 49-54.
2) McAuliffe, E., M. Galligan, P. Revill, F. Kamwendo, M. Sidat, H. Masanja, H. de Pinho and E. Araujo (2016). "Factors influencing job preferences of health workers providing obstetric care:results from discrete choice experiments in Malawi, Mozambique and Tanzania." Global Health 12(1): 86.
3) Sirili, N., G. Frumence, A. Kiwara, M. Mwangu, A. Anaeli, T. Nyamhanga, I. Goicolea, A.-K. Hurtig, f. Medicinska, m. Institutionen för folkhälsa och klinisk, h. Epidemiologi och global and u. Umeå (2018). "Retention of medical doctors at the district level: a qualitative study of experiences from Tanzania." BMC health services research 18(1): 260-210.
4) Sirili, N., G. Frumence, A. Kiwara, M. Mwangu, I. Goicolea and A.-K. Hurtig (2019). ""Doctors ready to be posted are jobless on the street…" the deployment process and shortage of doctors in Tanzania." Human resources for health 17(1): 11.
5) Sirili, N., G. Frumence, A. Kiwara, M. Mwangu, I. Goicolea and A.-K. Hurtig (2019). "Public private partnership in the training of doctors after the 1990s' health sector reforms: the case of Tanzania." Human resources for health 17(1): 33-33.
6) Larson, E., P. Geldsetzer, E. Mboggo, I. A. Lema, D. Sando, A. M. Ekström, W. Fawzi, D. W. Foster, C. Kilewo, N. Li, L. Machumi, L. Magesa, P. Mujinja, E. Mungure, M. Mwanyika-Sando, H. Naburi, H. Siril, D. Spiegelman, N. Ulenga and T. Bärnighausen (2019). "The effect of a community health worker intervention on public satisfaction: evidence from an unregistered outcome in a cluster-randomized (controlled trial in Dar es Salaam, Tanzania." Human Resources for Health 17(1): 1-8.
7) Manzi, F., J. A. Schellenberg, G. Hutton, K. Wyss, C. Mbuya, K. Shirima, H. Mshinda, M. Tanner and D. Schellenberg (2012). "Human resources for health care delivery in Tanzania: a multifaceted problem." Human resources for health 10(1): 3-3.
8) Mboineki, J. F. and W. Zhang (2018). "Healthcare Provider Views on Transitioning From Task Shifting to Advanced Practice Nursing in Tanzania." Nursing Research 67(1): 49-54.
9) Mkoka, D. A., G. R. Mahiti, A. Kiwara, M. Mwangu, I. Goicolea and A.-K. Hurtig (2015). "Once the government employs you, it forgets you": Health workers' and managers' perspectives on factors influencing working conditions for provision of maternal health care services in a rural district of Tanzania." Human Resources for Health 10. DOI 10.1186/s12960-015-0076-5 13(77).
10) Naburi, H., P. Mujinja, C. Kilewo, N. Orsini, T. Bärnighausen, K. Manji, G. Biberfeld, D. Sando, P. Geldsetzer, G. Chalamila and A. M. Ekström (2017). "Job satisfaction and turnover intentions among health care staff providing services for prevention of mother-to-child transmission of HIV in Dar es Salaam, Tanzania." Human resources for health 15(1): 61.
11) Ng'ang'a, N., M. W. Byrne, M. E. Kruk, A. Shemdoe and H. de Pinho (2016). "District health manager and mid-level provider perceptions of practice environments in acute obstetric settings in Tanzania: a mixed-method study." Human resources for health 14(1): 47.
12) Sato, M., D. Maufi, U. J. Mwingira, M. T. Leshabari, M. Ohnishi and S. Honda (2017). "Measuring three aspects of motivation among health workers at primary level health facilities in rural Tanzania." PloS one 12(5): e0176973.
13) Shemdoe, A., G. Mbaruku, A. Dillip, S. Bradley, J. William, D. Wason and Z. J.-L. Hildon (2016). "Explaining retention of healthcare workers in Tanzania: moving on, coming to 'look, see and go', or stay?" Human resources for health 14(1): 2.
14) Sirili, N., G. Frumence, A. Kiwara, M. Mwangu, A. Anaeli, T. Nyamhanga, I. Goicolea, A.-K. Hurtig, f. Medicinska, m. Institutionen för folkhälsa och klinisk, h. Epidemiologi och global and u. Umeå (2018). "Retention of medical doctors at the district level: a qualitative study of experiences from Tanzania." BMC health services research 18(1): 260-210. 36
15) Sirili, N., G. Frumence, A. Kiwara, M. Mwangu, I. Goicolea and A.-K. Hurtig (2019). ""Doctors ready to be posted are jobless on the street…" the deployment process and shortage of doctors in Tanzania." Human resources for health 17(1):
16) Sirili, N., G. Frumence, A. Kiwara, M. Mwangu, I. Goicolea and A.-K. Hurtig (2019). "Public private partnership in the training of doctors after the 1990s' health sector reforms: the case of Tanzania." Human resources for health 17(1): 33-33.
17) Zinnen, V., E. Paul, A. Mwisongo, D. Nyato and A. Robert (2012). "Motivation of human resources for health: a case study at rural district level in Tanzania: MOTIVATION OF HUMAN RESOURCES FOR HEALTH." The International Journal of Health Planning and Management27(4): 327-347.

18) Sheillah Matinhure1, Moses J. Chimbari and Martin S. Mapunda (2018). Capacity for providing caesarean section services in selected health centres and district hospitals in Tanzania. *Ghana Med J*; 52(4):196-207 doi: http://dx.doi.org/10.4314/gmj.v52i4.6
19) Gilles Dussault, Elsheikh Elsiddig Badr, Hartiah Haroen, Martin Mapunda, Achmad Soebagja Tancarino Mars, Kirana Pritasari and Giorgio Cometto(2016). Follow-up on Commitments at the 3rd Global Forum on Human Resources for Health: Indonesia, Sudan, Tanzania, Journal: Human Resources for Health http://www.human-resources-health.com/
20) Ishijima, H., Mapunda, M., Mndeme, M. et al. Challenges and opportunities for effective adoption of HRH information systems in developing countries: national rollout of HRHIS and TIIS in Tanzania. Human Resource Health 13, 48 (2015). https://doi.org/10.1186/s12960-015-0043-1
21) United Republic of Tanzania 2020, Health Sector Policy, Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
22) United Republic of Tanzania 2015, Health Sector Strategic Plan (HSSP) IV 2015-2020, Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
23) United Republic of Tanzania 2014, HRH Strategic Plans (2014 – 2019) Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
24) United Republic of Tanzania 2014, HRH Production Plan (2014 – 2024), Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
25) United Republic of Tanzania 2014, HRH Staffing Guideline (2014 – 2019), Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
26) United Republic of Tanzania 2014, HRH Task Sharing Policy Guideline and Implementation Plan (2014 – 2019), Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
27) HRH Requirement and Recruitment Plan (2014 – 2019) Ministry of Health, Community Development Gender Elderly and Children (MOHCDGEC)
28) United Republic of Tanzania, 2016, BRN Report
29) United Republic of Tanzania 2019, HRD presentations on High level HRH meeting on 6 May 2019
30) United Republic of Tanzania, 2019, HRD presentations on High level HRH meeting on 15 November 2019,
31) Policy commitments for 2017/18; 2018/2019 ; and 2019/2020

Appendixes

Appendix 1: Proposed Work-plan

The technical team from the MOHCDGEC and PORALG are expected to organise the planned activities within the proposed timeframe to facilitate timely and sooth implementation.

Table 10:Work plan for the development of the HRH 2020-2025

S/N	Activity	20th-28th Jul., 2020	1st-9th Aug., 2020	10th-18st Aug. 2020	19th - 23th Aug, 2020	24th-31st Aug., 2020	1st- 13th, Sept., 2020	14th-24th., Sept 2020	28 Sept-4th Oct., 2020	5th-11th Oct., 2020	11th-18th Oct., 2020	19th-25th Oct., 2020
1	critical Review of the Draft											
2	Warm Up Webinar Taskforces Meeting											
3	Workshop A (2 Days) for Taskforces and Invited Stakeholders											
4	Revision of the Draft HRH Strategy											
5	Draft HSSP V and other Plans											
6	Workshop B (2 Days) for Taskforces and invited stakeholders											
7	Regional Meeting, Task Force Meeting and Plenary Meeting											
8	Workshop B for Taskforces and invited stakeholders HSSP V											
9	Consolidation HRH Plan-integrate Costing and M&E											
10	Draft Versions of Plans Circulated											
11	verification Meetings-Reality and Cross Check											
12	Finalization											

Appendix 2: Participants for workshop A

Participants were drawn from various institutions as shown from table 1

Table 11: Institutions from which participants are drawn

Themes	Clustered TWGs	Governance	Members					
Human Resources for Health								
-Quantity of human resources (numbers needed to run the services) -Quality of human resources (competencies to meet with demands) -Training institutions	-HRH -Community, District, Regional, Zonal And National Health Services - Quality	**Chair MoHCDGEC** Director Human Resource for Health Development Dr Saitore Laizer **Co- Chair PO-RALG**	**MoHCDGEC**	**PO-RALG**	**UN**	**DPG-H**	**NSAs**	**GoT MDAs**
			1. Deodata Makani 2. Stephen Mapunda 3. Mary Ntira 4. Issa Mbaga	5. Juma Mabrouk 6. Juliana Mawala 7. Raymond Kiwesa 8. Jane Tarimo		1. Rose Shija, WHO 2. Dr. Peter Nyella, Embassy of Ireland 3. Godfrey Nyombi, USAID 4. Otilia Scutelniciuc, UNAIDS 5. Meaghan Byers, Canada 6. Prof. Gasper Munishi (representing Switzerland)	1. Atuswege Mwangomale 2. Kuki Tarimo 3. Gaddy Chuwa 4. Msafiri Swai	POPSMGG PORALG Education UDOM MUHAS NIMR MNH BMAF

Appendix 3: Production output per program

Table 12: Middle level cadres

Program (Award)	Enrolment										Output									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Advanced Diploma in Clinical Medicine	230	197	202	198	168	70	86	119	0	0	218	225	230	182	198	130	163	97	125	63
Advanced Diploma in Clinical Dentistry	12	10	11	9	8	10	10	10	0	0	13	9	12	10	8	7	7	5	9	11
Advanced Diploma in Vector Control	16	18	10	13	3	0	6	0	0	0	16	14	16	18	8	12	3	0	1	0
Diploma in Clinical Medicine	527	543	860	851	870	920	2812	4237	3400	9048	429	426	523	495	498	700	847	793	951	1863
Diploma In Clinical Dentistry	51	54	58	55	57	59	61	95	140	150	48	54	48	51	52	47	53	48	59	28
Diploma In Environmental Health Sciences	123	169	147	85	92	105	209	172	190	149	120	166	161	122	164	136	81	58	42	127
Diploma In Optometry	13	16	15	14	13	14	19	18	27	47	11	13	13	13	16	11	11	13	11	16
Diploma In Physiotherapy	22	22	24	16	22	26	43	49	107	104	17	22	20	22	20	20	13	14	11	28
Diploma In Dental Laboratory Technology	5	4	5	5	5	6	5	10	8	7	3	4	5	4	4	4	5	4	5	2
Diploma In Health Personnel Education	16	38	38	29	21	29	25	10	24	4	16	38	36	34	21	29	29	0	0	24
Diploma In Diagnostic Radiography	44	51	72	92	90	88	53	99	123	159	33	38	47	45	51	55	91	90	82	52
Diploma In Medical Laboratory Sciences	187	127	220	230	225	214	243	270	1386	2357	84	112	133	178	120	194	223	228	446	621
Diploma In Pharmaceutical Sciences	157	148	95	119	115	133	187	1549	388	7634	76	82	98	115	119	184	117	103	193	834
Certificate in Health Records	23	32	33	76	92	98	91	107	112	59	20	25	23	32	31	48	92	56	60	39
Certificate in Medical Laboratory Sciences	558	566	570	562	760	463	597	1210	1117	0	240	332	422	457	511	506	757	624	878	892
Certificate In Clinical Medicine	361	268	850	1138	1296	1345	1505	2280	4017	0	320	320	355	248	668	850	1290	1543	1904	4315
Certificate in Pharmaceutical Sciences	84	88	92	116	233	266	337	3874	3492	0	29	61	71	88	86	150	230	266	670	173

Diploma in Nursing	1098	1420	1490	1361	1421	2453	2645	900	1092	5359	978	1891	1430	1331	1291	1168	1359	1238	1753	2372
Certificate in Nursing	2108	1736	1723	1938	2195	2343	2989	2361	2916	0	1802	1491	2105	2082	2566	2639	2190	1367	4504	1990
Total	**5,635**	**5,507**	**6,515**	**6,907**	**7,686**	**8,642**	**11,923**	**17,370**	**18,539**	**25,077**	**4,473**	**5,323**	**5,748**	**5,527**	**6,432**	**6,890**	**7,561**	**6,547**	**11,704**	**13,450**

Table 13: Undergraduate level

DEGREE PROGRAM	ENROLMENT						GRADUATES					
	2014	2015	2016	2017	2018	2019	2014	2015	2016	2017	2018	2019
Doctor of Medicine	1825	2129	1671	1659	1824	1612	633	724	772	896	985	1079
Doctor of Dental Surgery	53	42	31	62	68	65	17	18	22	32	27	42
Bachelor of Medical Laboratory Science	139	294	297	243	267	276	59	83	96	194	70	38
Bachelor of Pharmacy	366	307	338	371	408	405	108	96	74	143	70	157
Bachelor of Physiotherapy	17	49	33		0	0	8	23	14	23		
Bachelor of Science in Environmental Health Sciences		44	34	57	62	58	38	10	18	45	44	33
Bachelor of Science in Nursing and Midwifery	685	1003	931	1012	1113	1200	246	158	208	387	402	453
Bachelor of Science in Radiation Therapy Technology		11	2	28	30	26	6	7	4	17	12	8
Orthortist/Prosthetist	13	17	12	-	0		9	22	11	13		
TOTAL	**3,098**	**3,896**	**3,349**	**3,432**	**3,772**	**3,642**	**1,124**	**1,141**	**1,219**	**1,750**	**1,610**	**1,810**

Appendix 4: Absorption rate

Table 14: Health workers recruitment trends 2005/2006-2018/2019

Year	Recruitment Permit	# of health workers posted	Total %
2005/2006	1,677	983	59
2006/2007	3,890	3,669	94
2007/2008	6,437	4,812	75
2008/2009	5,241	3,010	57
2009/2010	6,257	4,090	65
2010/2011	7,471	5,704	76
2011/2012	9,347	7,028	75
2012/2013	6,471	6,471	100
2013/2014	10,940	10,014	92
2014/2015	8,345	8,345	100
2015/2016	0	0	0
2016/2017	3,152	3,152	100
2018/2019	7,680	7,680	100
2019/2020		1,000 (MDs)	1,000
Total	76,908	65,958	78