



REPUBLIC OF ZAMBIA



National Health Research Authority-
Zambia

THE ZAMBIA NATIONAL HEALTH RESEARCH AGENDA

2022-2026

November 2022



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The Zambia National Health Research Agenda 2022 - 2026

Ministry of Health
Lusaka, Zambia

National Health Research Authority
Lusaka, Zambia

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ACRONYMS

ACT	Artemisinin Based Combination Therapy
ADRs	Adverse Drug Reactions
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ARVs	Antiretroviral drugs
CAM	Combined Approach Matrix
CBVs	Community Based Volunteers
CHA	Community Health Assistant
CHNRI	Child Health and Nutrition Research Initiative
CHWs	Community Health Workers
COHRED	Council on Health Research for Development
DHIS2	District Health Management Information System version 2
DNA	Deoxyribonucleic Acid
DOT	Directly Observed Therapy
ECSA	East, Central, and Southern Africa Health Community
eMTCT	Elimination of mother to child transmission of HIV
ENHR	Essential National Health Research
HIAP	Health in All Policy
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HPV	Human Papillomavirus
HTS	HIV Testing Services
ICCM	Integrated Community Case Management
IPTP	Intermittent Preventive Therapy in pregnancy
IRLF	Implementation Research Leverage Fund
IRS	Indoor Residual Spray
ITNs	Insecticide Treated Nets
IYCF	Infant and Young Child Feeding
JLA	James Lind Alliance
KAP	Knowledge, Attitudes, and Practices
KAPP	Knowledge, Attitudes, Perceptions, and Practices
M&E	Monitoring and Evaluation
MDA	Mass Drug Administration
MDR-TB	Multi-Drug Resistance Tuberculosis
MOH	Ministry of Health
NCDs	Non-Communicable Diseases
NDP	National Development Plan
NHRA	National Health Research Authority
NHRAC	National Health Research Authority Council
NHRAC	National Health Research Advisory Committee
NHRP	National Health Research Policy
NPHI	National Public Health Institute

NSTC	National Science and Technology Council
NTDs	Neglected Tropical Diseases
PBF	Performance Based Financing
PSA	Prostate Specific Agent
RDT	Rapid Diagnostic Test
RMNCAH&N	Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition
SBCC	Social and Behavior Change Communication
SMAGs	Safe Motherhood Action Groups
SRH	Sexual and Reproductive Health
STIs	Sexually Transmitted Infections
TB	Tuberculosis
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization
ZAMFOHR	Zambia Forum for Health Research

FOREWORD



The first National Health Research Agenda was developed in 1999 when the document called “The Zambia National Health Research Agenda: National Health Research Priorities and Recommendations for Action: 1999-2001” was developed under the then Central Board of Health. Since then, few research priorities at program levels have been developed. With the establishment of the National Health Research Authority and its operationalization in 2017, Zambia developed the Zambia National Health Research Priorities 2018-2021 which were aligned to the Seventh National development plan and the National Health Strategic plan 2016-2021.

This National Health Research Agenda 2022-2026 forms yet another milestone in Zambia’s health agenda in that it provides an important guide to Zambia’s quest for evidence-based decision making. The document links Zambia’s health development goals as it is aligned with the eighth National Development Plan and Zambia’s public health and health systems priorities as contained in the Ministry of Health Strategic Plan 2022-2026 to the production of research evidence and the translation of that evidence into practice.

The document provides guidance to Governments and cooperating partners funding health research institutions, and researchers and other stakeholders on the areas of research that would best respond to Zambia’s health needs. The document fulfills the policy measures articulated in Zambia Health Research Policy of 2010 in which the Zambian government committed to ensuring that:

- a. There are mechanisms and criteria for identifying and agreeing on national health research priorities;
- b. Adequate funding is available for priority health research;
- c. A National health research agenda is set and disseminated to stakeholders with a provision for review and update from time to time;
- d. Stakeholders involved in health research buy into the national health research agenda;

With this national health research agenda, the Zambian government through the National Health Research Authority will ensure that priority research needs are given attention through direct financial support. The National Health Research Authority has set up a Research Trust Fund to fund priority research. This Fund will be financed by the Zambian government through Parliamentary allocation, cooperating partners, and researchers through various fees charged by the National Health Research Authority.

I wish to urge therefore, all stakeholders in health research in Zambia and international organizations conducting health research or intending to conduct health research in Zambia to familiarize themselves with this important document. May I also appeal to all cooperating partners to financially support the National Health Research Agenda by coming up with Requests for Applications (RFAs) for funding to address specific research priority areas and release funds to be administered through the NHRA. This will not only help promote priority health research but will also help harmonize research financing and facilitate effective coordination of health research in the country.

Hon. Sylvia T. Masebo, MP
Minister of Health, MOH

PREFACE

One of the key mandates of the National Health Research Authority (NHRA) as provided for under Act No. 2 of 2013 of Zambia is to identify and prioritize areas for health research and advise the Minister, who shall recommend the priority areas to Cabinet for approval as national health research priority areas to be incorporated into the national health research strategic plan. Because the National Health Strategic Plan (NHSP) was developed before the National Health Research Priorities were identified, the National Health Research Authority critically analyzed the public health and health systems priorities in the NHSP and identified research priorities in line with the national health priorities.

The Health Research Act of 2013 provides clear criteria for identifying priorities for health research, and in line with the Act, the NHRA, in developing this National Health Research Agenda, took into consideration the following:

1. The burden of disease in the country;
2. The cost effectiveness of interventions aimed at reducing the burden of disease;
3. The availability of resources for the implementation of an intervention at the level closest to the affected communities;
4. The health needs of special groups;
5. The health needs of communities;
6. Emerging public health problems.

The development of this Research Agenda was highly consultative and was guided by the Research and Development Committee of the NHRA Council and technically by the NHRA Technical staff. The process involved consultations with health professionals in charge of specific health programs, medical personnel in various fields, health researchers, heads of health research institutions, representatives of academic institutions, and other key stakeholders in the health sector. This was done to ensure that the priorities identified cover all health disciplines and that the National Health Research Agenda is owned by all health sector stakeholders. May I therefore appeal to all researchers in Zambia to buy into this National Health Research Agenda

and use this document as a reference during the development of their institutional research plans. I also wish to appeal to academic institutions involved in health to ensure that their students are availed this document to guide their research projects.



Dr Kennedy Lishimpi
Permanent Secretary- Technical Services
MINISTRY OF HEALTH

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Chapter I: Background and Context

Setting priorities for health research areas is an important exercise as it aligns research to national health priorities and guides researchers, policy makers and program implementers to research topics and questions whose answers would positively impact the health status of the people. Research priorities determine the research agenda, practices, and technologies of a given nation [1]. Available data shows that to date there has been five health research priority setting initiatives in Zambia [2]. The first national health research priority setting was conducted in 1998 to 1999 by the National Health Research Advisory Committee (NHRACo) of the Ministry of Health (MoH) which came up with a document called the first National Health Research Agenda [3,4]. Other research priority setting initiatives that followed were: Priority setting for health research as part of the general priority setting for health driven by the National Health Strategic Plan 2006–2011; priority setting by the National Science and Technology Council (NSTC); priority setting by the Zambia Forum for Health Research (ZAMFOHR), a comprehensive priority setting process for MoH programs and priority setting by the MoH in partnership with the World Health Organization Implementation Research Leverage Fund (WHO-IRLF) on Maternal, Neonatal and Child Health. An analysis of all these initiatives reveals a lack of linkages between the different initiatives, with no conscious recognition and building on previous priority-setting experiences [2]. The current health research priority setting has taken into account the weaknesses and strengths in the previous priority setting initiatives and builds upon those initiatives. The current process has taken a deliberate effort to align the health research priorities to the national priorities as outlined in Zambia's Eighth National Development Plan (8NDP) 2022-2026 [5] and the Ministry of Health Strategic Plan 2022-2026 [6]. The process has also taken into account issues identified in the National Health Research Policy (NHRP) of 2010 [7].

Although the 8NDP Development Plan Outcome on Improved Health, Food and Nutrition does not speak directly to Health Research, it does emphasize strengthening “integrated health systems” which include integrated health management information and research. This is well articulated in the National Health Strategic Plan (NHSP) 2022 to 2026. Section 5.2.4 focuses on “Health Information, Research, and Innovation” and sub-section 5.2.4.2 Goal No. 2 states, “To strengthen National Health Research Systems through improved resource mobilization and research governance in order to improve generation of research evidence for evidence-based policies and decisions.”

The MoH National Health Strategic Plan 2022-2026 has set specific Public Health Priorities and Health System Priorities as outlined in the table below:

The MoH National Health Strategic Plan 2022-2026 has set specific Public Health Priorities and Health System Priorities as outlined in the table below:	
Stakeholder Category	
Internal Stakeholders	Interest/ Role In The Health Sector
1. Ministry of Health (MoH) Head Office	Interested in the overall success of the health sector and attainment of national health goals, as well as the relevant regional and international commitments. Responsible for providing overall efficient and effective leadership and coordination.
2. Provincial Health Offices (PHOs)	Responsible for providing leadership and coordination of health service delivery at provincial level.
3. District Health Offices (DHOs)	Responsible for providing leadership and coordination of health service delivery at district level, and ensuring community participation and access to the required health services.
4. Health Facilities	Responsible for delivery of the specific goods and services
5. Health Statutory Boards/Bodies	Responsible for delivery of specific goods and/or services to the health sector, based on the respective mandates.
6. Health Training Institutions	Training and capacity building for health workers, to produce appropriately qualified health workers
External Stakeholders	
1. Central Government (Executive, Legislature and Judiciary)	Overall national policy direction, legislative and judicial support to the sector. Financial support, through the national treasury.
2. Other Government line ministries and departments	Providing support to the health sector, in line with their respective mandates, including addressing the social determinants of health and SDGs under their mandates.
3. Patients, communities and the general public	This represents the main stakeholders, the cause for the existence of the health sector. Interested in accessing adequate, safe, quality, efficient and effective health information and services, as close to the families as possible.
4. Private sector	Interested in the various forms of business opportunities presented by the sector. Also interested in conducive business environment, transparency and fair play in accessing these opportunities.
5 Civil Society/Non-Governmental Organizations (NGOs)	Participation and support to the health sector through provision of mandated goods and services, including advocacy, community engagement, health services delivery and playing the role of watchdog on transparency and accountability. The Churches Health Association of Zambia (CHAZ) and several other CSOs are involved in the actual delivery of health services.
6. Cooperating Partners (Regional and international community)	The Cooperating Partners (CPs)/donors represent the international community in providing the much needed technical and financial support to the sector.
7. Research institutions / Academia	Interested in generating and sharing evidence and knowledge on health, for information, education, and for influencing policy and management decision making.

The National Health Research Policy of 2010 has set specific policy measures on research priority setting as summarized below:

- Develop mechanisms and criteria for identifying and agreeing on national health research priorities;
- Ensure adequate funding is available for priority health research;
- Ensure that a national health research agenda is set and disseminated to stakeholders with a provision for review and update from time to time;
- Ensure that stakeholders involved in health research buy into the national health research agenda.
- Undertake a thorough update and inventory of all health research in the country.



Chapter 2: Objectives and Process of the National Research Priority Setting

2.1 Objectives of the National Health Research agenda

2.1.1 Overall Objective

The main objective of the Zambia National Health Research Agenda and Priorities is to align the production of research evidence to the National Health Goals and Objectives as well as provide guidance to researchers, research institutions, academic institutions, policy makers, program implementers, health development partners and other partners on Zambia's health research focus.

2.1.2 Specific Objectives

The specific objectives of the research agenda are:

- a. Align health research outputs with the national health research priorities
- b. Guide researchers, policy makers, program implementers, academic institutions, health development partners and other stakeholders on health research priorities
- c. Provide a guide for national health research activities to address national health research gaps and needs
- d. Provide a guide on research areas to be funded through the National Health Research Fund
- e. Facilitate mobilization of finances and resources for the conduct of locally relevant health research

2.2 The Process of Developing the National Health Research Agenda

2.2.1 Overview of the process

The development of the national health research agenda was based on a highly consultative and inclusive process and used evidence-based research priority setting methodologies. The priority setting process involved the following key steps:

- a. Desk review of health research priorities set in previous years in Zambia. This was an important step so as to learn from the past priority setting efforts in Zambia. As Pascalina and others observed, in the past there has been lack of linkages between the different priority setting initiatives and no conscious recognition and building on previous priority-setting experiences [2].
- b. Health research gap analysis based on a desk review of research conducted under specific thematic areas over the five years prior to 2022.
- c. Identification and prioritization of some key research ideas by a small select group of stakeholders based on the Ministry of Health National Health Strategic Plan 2022- 2026 and the health research gap analysis
- d. Wider stakeholder consultation via email
- e. Revision of research ideas and topics by the National Health Research Authority, incorporating input from the wider research community; circulation of the draft 2022-2026 National Health Research Agenda to the wider research community, policy makers, program implementers, and health development partners
- f. Final Stakeholders Consultation and Consensus Workshop

- g. Finalization of the National Health Research Agenda document by the National Health Research Authority
- h. Submission of the National Health Research Agenda to the National Health Authority Council for approval
- i. Submission of the National Health Research Agenda to the Honorable Minister of Health for approval
- j. Dissemination of the National Health Research Agenda

2.2.2 Priority Setting Criteria

Priority setting methods overview

Global literature reveals many methods and criteria used to set national health research priorities [8]. These include:

- a. Child Health and Nutrition Research Initiative (CHNRI)
- b. Delphi method
- c. James Lind Alliance
- d. 3D Combined Approach Matrix (CAM)
- e. Council on Health Research for Development (COHRED) Essential National Health Research (ENHR)

Child Health and Nutrition Research Initiative (CHNRI)

This is a systematic but flexible method for setting research priorities for global health [9, 10]. The method has five guiding principles:

- **Answerability:** Likelihood that research option would be answerable in an ethical way
- **Effectiveness:** Likelihood that resulting intervention would reduce disease burden
- **Deliverability:** Affordability and sustainability of resulting intervention
- **Maximum potential** that intervention will reduce disease burden
- **Effect of diseases burden** on equity in population

The above principles or priority setting criteria may be expanded as per illustrated in table I below

Table 1. Possible Criterion for priority setting
Answerability? (Some health research options will be more likely to be answerable than the others)
Attractiveness? (Some health research options will be more likely to lead to publications in high-impact journals)
Novelty? (Some health research options will be more likely to generate truly novel and non-existing knowledge)
Potential for translation? (Some health research options will be more likely to generate knowledge that will be translated into health intervention)
Effectiveness? (Some health research options will be more likely to generate/improve truly effective health interventions)
Affordability? (The translation or implementation of knowledge generated through some health research options will not be affordable within the context)
Deliverability? (Some health research options will lead to/impact health interventions that will not be deliverable within the context)
Sustainability? (Some health research options will lead to/impact health interventions that will not be sustainable within the context)
Public opinion? (Some health research options will seem more justified and acceptable to general public than the others)
Ethical aspects? (Some health research options will be more likely to raise ethical concerns than the others)
Maximum potential impact on burden? (Some health research options will have a theoretical potential to reduce much larger portions of the existing disease burden than the others)
Equity? (Some health research options will lead to health interventions that will only be accessible to the privileged in the society/ context, thus increasing inequity)
Community involvement? (Some health research options will have more additional positive side-effects through community involvement)
Cost and feasibility? (All other criteria being equal, some research options will still require more funding than the others and thus be less feasible investments)
Likelihood of generating patents/lucrative products? (Some research options will have greater likelihood of generating patents or other potentially lucrative products, thus promising greater financial return on investments, regardless of their impact on disease burden)
<i>Source: Igor Rudan, 2008</i>

2. Delphi method

This is a two-stage process starting with a questionnaire to seek initial views from a wide range of experts. The responses are then collated and sent out again to the contributors for comments. The experts are also asked to assess their relative level of competence in answering the questions [11]. We used some modified form of the method through email consultation with the research community (research experts) in one of our priorities setting processes; the main modification is that we did not use a structured questionnaire.

3. James Lind Alliance (JLA)

The James Lind Alliance is an independent organization funded by the National Institute of Health Research and Medical Research Council, UK. Its role is to provide a platform for an independent and integrative approach to determining both patients' and clinicians' views on setting the research agenda. The JLA uses both quantitative and qualitative approaches to the inclusive participation of a range of different stakeholders (patients, clinicians, and caregivers) [12, 13]. This methodology was found to be inappropriate for our national priority setting process.

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4. 3D Combined Approach Matrix (CAM)

The three dimensions combined approach matrix is a methodology that is based on three equally important pillars: process, tools and context [14]:

- The process of selecting priorities is a continuous and cyclical activity that involves a large number of stakeholders. The key is to make the process as objective and participatory as possible and define priorities that are responsive to local needs.
- Priority-setting tools are instruments that enable the collection, organization and analysis of information needed to help set priorities.
- The method also takes into account the social, economic and cultural context.

In addition to the three pillars, the methodology also considers the priority-setting from three dimensions: **Public health, institutional, and equity.**

Public Health: Considers the magnitude of problem, determinants of the problem, available interventions, cost-effectiveness of the interventions, present investments

Institutional: Considers a) Individual, household, community; b) Health sector; c) Other sectors related to social determinants; d) Governance: institutions and structures which impact health.

Equity: This dimension aims to elucidate the correlates of poverty, powerlessness and social injustice and may include categories such as gender, poverty, disability, religion, educational status or race. This dimension is new and has not been fully tested in different settings.

5. Council on Health Research for Development (COHRED) Essential National Health Research (ENHR)

This methodology is based on about three principles and four characteristics of the process.

[15]. Principles: Put country priorities first; work for equity in health; link research to action for development.

Characteristics: Inclusiveness; multidisciplinary and cross-sectoral approach; participatory and transparent processes; systematic analyses of health needs, societal and professional expectations.

Out of the methods above, recent evidence shows that the CHNRI is the most frequently used (26%), followed by the Delphi (24%), James Lind Alliance (8%), CAM (2%) and ENHR (1%) [9].

Criteria Used for this Priority Setting:

In deciding on the criteria to use, the NHRA also reviewed some National Health Research Agendas within the African Region to compare notes. Based on available evidence the combination of the CHNRI, Delphi, 3D CAM and ENHR methods were used in the priority setting process but the actual criteria were adapted from CHNRI. From the CHNRI the following criteria was used to rank research ideas and topics:

- **Answerability:** Is the health research idea more likely to be answerable?
- **Novelty:** Is the health research idea more likely to generate truly novel and non-existing knowledge?
- **Potential for translation:** Is the health research idea more likely to generate knowledge that will be translated into health interventions?
- **Effectiveness:** Is the health research idea more likely to generate/improve truly effective health interventions?
- **Affordability:** Is the translation or implementation of the knowledge generated through the health research idea more likely to be affordable within the Zambian context?
- **Deliverability:** Is the health research idea likely to lead to / impact health interventions that will be deliverable within the Zambian context?
- **Sustainability:** Is the health research idea likely to lead to/ impact health interventions that will be sustainable within the Zambian context?
- **Ethical aspects:** Is the health research idea more likely to raise ethical concerns?
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- **Equity:** Is the health research idea more likely to lead to health interventions that will not only be accessible to the privileged in the Zambian society/context but to all socio-economic groups?
- **Community involvement:** Is the health research idea likely to have more additional positive side-effects through community involvement?
- **Feasibility:** Is the health research idea likely to lead to translation at the current stage of knowledge?
- **Relevance:** Is the health research idea relevant to the Zambian context?
- **Fills key gap:** Is the health research idea likely to fill the key gap in knowledge that is required for translation and/or implementation of priority health programs in Zambia?
- **Cost:** Is the research idea likely to require less funding than other possible ideas within the same health priority thematic area to undertake in Zambia?
- **Fundability:** Is the research idea more likely to receive funding support within Zambia? Alignment with “country health” priorities: Is the health research idea aligned with Zambia’s National Health Priorities as contained in the Ministry of Health National Health Strategic Plan 2017-2021?

- **Likelihood** of generating patents/lucrative products: Is the health research idea likely to generate patents or other potentially lucrative products, thus promising greater financial return on investments, regardless of their impact on disease burden in Zambia?

A “yes” to each of the questions above was rated as “1.0”, where there was a doubt, the score was “0.5” and where it was a definite “no” the score was “0.0” for each research idea a weighted average was then calculated, ranging between 0 and 1 and the ideas were then ranked; the idea with the highest score being ranked of higher priority. Overall, the overarching criterion was whether the idea was within the National Health Priorities.

Chapter 3: The National Health Research Priorities by Health Sector Priority Area: Translating Priority Health Issues into Priority Health Research Issues

This chapter outlines the research priorities identified during the consultative process. The research questions are of different “depth” and include very broad “research avenues” or research fields; more specific “research options”; and more specific research questions that correspond to a title of a typical research paper [11]. Hence readers will note that some research priorities are more specific and directive, while others are very broad. This approach was chosen to allow for a wider selection of research ideas and innovation while at the same time provide researchers with main priority areas of research for Zambia. Rather than “prescribe” all the specific research questions for researchers, the approach has provided a number of broad research areas, carefully selected to respond to Zambia’s health priorities. Kindly note that the numbering of priorities in this document does not represent the order of priorities. The ranking methodology was used to come up with the lists of research ideas and questions but these were not further ranked in any order.

3.1 National Public Health Research Priorities

3.1.1 Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH&N)

A. Maternal Health

1. Conduct studies aimed at understanding antenatal and postnatal care practices in order to improve attendance and quality of care.
 - a. Conduct studies to come up with novel and effective interventions to improve antenatal attendance in the first trimester
2. Conduct studies to assess the knowledge and response to maternal danger signs at the community level
3. Conduct studies that explore opportunities of uptake of folic acid in pre-conception care
4. Conduct studies aimed at finding effective interventions to improve adherence to maternal referral guidelines
5. Conduct studies aimed at identifying effective behavior change strategies to improve maternal health and birth outcomes
6. Conduct studies on community-based effective models of improving maternal and newborn care
7. Conduct studies that look at Intermittent Preventive Therapy (IPT) uptake in pregnancy
8. Conduct studies that look at the impact of Maternal perinatal Death Surveillance and response (MP-DSR) on maternal health outcomes
9. Conduct studies that explore opportunities of using family centered approach to improve maternal health
10. Conduct studies on the prevalence, incidence, identification & management of postpartum depression & postpartum psychosis

B. Reproductive Health

1. Conduct studies to provide evidence to improve reproductive health commodities supplies
2. Conduct intervention studies on infertility (both male and female)
3. Conduct studies to evaluate factors associated with unmet need for contraceptives and what needs to be done

4. Conduct studies to improve the acceptance and utilization of vasectomy
5. Conduct studies aimed at evaluating the Spatial disparities of family planning services/ different family planning methods
6. Conduct studies to evaluate the outcomes of infertility seeking services
7. Conduct studies on family planning services and gender-based violence / SRH seeking behavior and GBV
8. Conduct studies around reproductive health issues among menopausal women
9. Conduct studies aimed at evaluating the effectiveness of male involvement in family planning
10. Conduct studies on family planning and unintended pregnancies

C. Neonatal Health

1. Conduct implementation studies to address neonatal mortalities
2. Conduct studies to assess the use of community-based proven interventions to reduce neonatal mortality
3. Conduct studies aimed at improving survival of preterm babies
4. Conduct studies to improve implementation of Kangaroo Mother Care (KMC) in the health facilities
5. Conduct studies that explore opportunities of using family centered approach to improve neonatal health
6. Conduct studies to assess the effectiveness of PDSR as a reporting tool for Newborn deaths
7. Conduct studies that look at knowledge attitudes and practices of health workers towards baby friendly health facility initiative implementation and opportunities for improvement
8. Conduct studies aimed at evaluating outcomes in newborns who suffer birth asphyxia- long term
9. Conduct studies to evaluate adherence to referral guidelines for newborns
10. Conduct studies aimed at investigating neonatal sepsis
11. Conduct studies to assess the Knowledge, Attitudes and Practices of health care workers on Immediate Care of the Newborn

D. Child Health (under 10 years of age)

1. Conduct studies to increase uptake of HIV related services in children
2. Conduct studies on child abuse including operational research on programs that empower children to report abuse
3. Conduct studies on viral hepatitis in children (prevalence, incidence, etc.) and the cost- effectiveness of mass antenatal screening and/or birth dose of hepatitis B vaccine in Zambia
4. Conduct studies on non-communicable diseases affecting child health (e.g., epilepsy, cerebral palsy, malnutrition, etc.)
5. Conduct studies on anemia in children under 5 years
6. Conduct studies to evaluate programming around community participation and engagement in the demand and utilization of child health services
7. Conduct studies on early childhood development and implementation in health facilities

E. Adolescent Health (10-19 years of age)

1. Conduct studies to evaluate current interventions on community mobilization of reproductive health services for adolescents
2. Conduct studies aimed at utilization of new technologies to increase uptake of SRH services by adolescents

3. Conduct studies aimed at establishing interventions to increase demand for sexual and reproductive health services among adolescents
4. Conduct studies to evaluate the implementation of adolescent health strategies in Zambia
5. Conduct studies to evaluate factors associated with new HIV infections among adolescents in Zambia and determine the most effective interventions
6. Conduct studies on the Knowledge, Attitudes, and Perceptions (KAP) on HPV vaccine among adolescent girls in Zambia
7. Conduct studies aimed at reducing drug and substance abuse among adolescents
8. Conduct studies surrounding sexuality and sexual behaviors among adolescents living with HIV
9. Conduct studies to assess knowledge, attitudes, and practices among health care workers of key adolescent issues
10. Conduct studies to evaluate the comprehensive sexuality curriculum in schools and impact of comprehensive sexuality education on children and adolescents
11. Conduct studies that evaluate HIV/SRH outreach services for adolescents that are out of school
12. Conduct studies to establish interventions to reduce teenage pregnancies
13. Conduct studies that aim to establish mental health challenges among adolescents
14. Conduct studies on unsafe abortions among adolescents
15. Studies aimed at improving Parent-Adolescent Communication about Sexual and SRH service utilization Behaviors.
16. Studies aimed at improving Adolescent Girls and Young Women (AGYW) and their partner's communication about contraception and PrEP use
17. Studies to understand factors influencing adolescent girls and young women's (AGYW) single use of contraception to prevent pregnancy and not combination prevention to prevent both pregnancy and STIs

F. Nutrition

1. Conduct studies to determine the prevalence and factors associated with malnutrition (under and over nutrition) among all age groups in Zambia
2. Conduct studies to determine the prevalence of micronutrient deficiencies in Zambia
3. Conduct studies to determine the prevalence of nutrition related NCDs in Zambia
4. Conduct implementation studies on effective ways of integrating nutrition into other key health sector interventions, such as maternal and adolescent health, HIV care, TB, IMCI, WASH and NCDs
5. Conduct studies to establish innovations and technologies that enhance implementation of child health and nutrition interventions, including nutrition therapies
6. Conduct studies on the effectiveness of community based blended complementary foods for Infant and Young Child Feeding
7. Conduct studies that aim to formulate locally produced therapeutic feeds or products for management of acute malnutrition, for potential commercialization.
8. Conduct studies to review the impact of Vitamin A supplementation in Zambia
9. Conduct studies to assess the cost-effectiveness of the Child Health Week
10. Conduct studies on the safety, efficacy, and effectiveness of food supplements
11. Conduct studies that explore opportunities of reducing stunting in Zambia
12. Conduct studies on the Knowledge and Attitudes on infant feeding Practices among HIV positive women of reproductive age

3.1.2 Communicable diseases

A. HIV and AIDS, STIs

A1. Social and Behavior Change Communication (SBCC)

1. Conduct studies to assess the impact of HIV prevention services such as Prep uptake, acceptability, feasibility and cost effectiveness
2. Conduct studies to evaluate the impact of Comprehensive Sexuality Education on adolescent access to HIV/AIDS and sexual reproductive health services
3. Conduct studies to assess the effectiveness of various SBCC methods to improve awareness and create demand for STI screening and treatment
4. Conduct studies to assess the social and cultural determinants of the current sexual behaviors among adolescents
5. Conduct an impact assessment on the integration of SBCC in targeted HIV programmatic areas (e.g., eMTCT, HTS, VMMC, etc.)
6. Conduct studies assessing the fidelity of implementing social and behavior change communication programs aimed at HIV prevention and care.
7. Conduct studies to assess the impact of implementation programs directed towards SBCC

A2. Comprehensive Condom programming

1. Conduct studies to determine best ways to improve uptake of female condoms among sexually active populations
2. Conduct studies to assess facilitators and barriers to expanding access to condoms among sexually active populations
3. Conduct studies to assess the level of correct & consistent condom use among sexually active populations
4. Conduct studies to evaluate the current supply chain management system for condoms to identify gaps and improvement areas

A3. Voluntary Medical Male Circumcision

1. Conduct studies to assess the uptake of VMMC amongst men in Zambia
2. Conduct studies to assess the cost-effectiveness of the comprehensive VMMC package of services
3. Conduct studies to assess the implementation of VMMC in Zambia
4. Conduct studies to assess the sustainability of the comprehensive VMMC package of services
5. Conduct studies to assess the quality of services offered within the comprehensive VMMC package
6. Conduct studies to assess the acceptability and incidence of severe adverse events of the different methods of VMMC
7. Conduct studies on the prevalence of common viral and/or bacterial infections in the context of VMMC

A4. Sexually Transmitted Infections

1. Conduct studies to assess facilitators and barriers to positive health seeking behaviors among key populations and other vulnerable populations
2. Conduct studies tracking drug resistance for STIs
3. Conduct studies to identify gaps in syndromic and/or etiological STI management, including early treatment behavior, partner notification and referral, and screening, diagnostics and treatment

4. Conduct implementation studies on the integration of STI services with the community level HIV screening
5. Conduct studies to assess the levels of utilization of youth friendly services integrating STI screening and management, HTS, and condom promotion and distribution
6. Conduct studies to determine the availability and effectiveness of youth-friendly services integrating STI screening and management, HTS, and condom promotion and distribution
7. Conduct studies on novel STI diagnostic tools
8. Conduct studies to determine the prevalence of STIs and co-infection with HIV in Zambia

A5. HIV Testing Services

1. Conduct needs-based analyses to determine if fast track unique identifiers are required to address multiple HIV testing at facility, community and self-testing settings
2. Conduct studies to assess the level of HTS utilization among at-risk sub-populations at high risk of HIV infection.
3. Conduct studies on feasibility of integration of HTS in Men's Clinics
4. Conduct studies to assess the sensitivity and specificity of new HIV testing platforms e.g., recency testing. prevalence of HIV false positive test results among ART initiated clients
5. Conduct desk reviews of the HTS program to inform policy
6. Conduct studies to identify challenges in implementation of couple based HTS (Couple HIV Testing and Counseling (CHTC))
7. Conduct studies to evaluate factors associated with low-utilization of provider initiated HTS in order to strengthen the program, especially among children and early adolescents, including nutrition rehabilitation and other clinical services
8. Conduct studies to evaluate the current supply chain management system for HIV testing reagents and other laboratory consumables and supplies to identify gaps and improvement areas
9. Conduct studies to determine the effectiveness (yield) of various HIV testing strategies
10. Conduct studies to assess the prevalence of HIV false positive test results among ART initiated clients
11. Conduct studies to assess the prevalence of false negative test results among those on long term ART

A6. Elimination of Mother to Child Transmission

1. Conduct studies on optimizing maternal outcomes through viral load monitoring and adherence to ART for mother-infant pairs through community-facility linkages
2. Conduct studies to evaluate the barriers to use of PrEP in at-risk Pregnant and Breastfeeding Women (PBFW)
3. Conduct studies to evaluate point of care HIV diagnostic tools for children born to HIV-positive mothers in rural settings
4. Conduct studies to improve PMTCT to optimize maternal and child health outcomes through use of different community approaches e.g., M2M
5. Conduct studies to evaluate the incidence of HIV in antenatal and postnatal women
6. Conduct studies on the PMTCT cascade analysis of data that drives breakthrough infections
7. Conduct studies to evaluate the effectiveness of using SMAGs, CHW and Community Midwives in improving first ANC attendance, HIV testing and monitoring of clients at community level
8. Conduct studies to evaluate the impact of SMS technology for enhancing access to results for EID in prevention of mother-to-child transmission (PMTCT) services Zambia

9. Conduct studies to evaluate community-facility linkage models to promote mother-infant retention along the HIV care continuum of care
10. Conduct national assessment and evaluation studies on PMTCT HIV/Syphilis and Hep B in all provinces
11. Conduct studies to evaluate the practice of follow-up of HIV-positive mothers and their babies in their first- and second-year post delivery.
12. Conduct studies to assess the impact of Option B+ on the MTCT of HIV

A7. Treatment (ART)

1. Conduct studies to evaluate the current and other innovative strategies of monitoring treatment adherence
2. Conduct studies to evaluate the impact of collaborative HIV/TB interventions (3Is)
3. Conduct studies to assess the current linkages between ART programs and the food security sector
4. Conduct studies to assess the feasibility of providing ART patients with locally produced foods
5. Conduct intervention studies to improve retention on ART programs
6. Conduct studies on the side effects of ARVs being used in Zambia
7. Conduct studies on HIV viral load and drug resistant testing using PoCs and other innovative diagnostic tools
8. Conduct studies to assess the efficacy and feasibility of new ART agents [e.g., Long-acting injectable ART].
9. Conduct studies to monitor the progress of ART programs and innovative platforms to improve HIV care services for PLHIV

A8. Pre-Exposure Prophylaxis

1. Studies on drug resistance and related seroconversion among PrEP users

A9. Product Introduction Research

1. Behavioral research to understand how individuals engage with new HIV prevention products or methods.
2. Conduct Marketing and Communication research to understand the target audience's communication preferences, information sources, and decision-making processes to maximize reach and impact.
3. Conduct studies to assess the cost-effectiveness and potential impact of introducing new HIV prevention products or methods.

B. Tuberculosis

1. Conduct studies to understand factors responsible for the delay in diagnosis of TB
2. Conduct studies to evaluate the newer generation GeneXpert on time to diagnosis, notification and treatment outcomes including in EPTB
3. Conduct studies to evaluate new TB diagnostic technologies (LAM, Digital X-ray, etc.) for their sensitivity, impact on diagnosis/notification
4. Conduct studies to evaluate uptake of newer TB diagnostics through OR/IR
5. Conduct studies to evaluate new strategies for improving TB case notification
6. Conduct follow up studies on the TB drug resistance survey (DRS)
7. Conduct studies to assess cost, acceptability and cost effectiveness of ambulatory MDR-TB care versus hospital-based care

8. Conduct studies to evaluate treatment outcomes among MDR-TB patients on shorter regimen and those on longer regimen
9. Conduct studies to evaluate the effectiveness of the decentralized MDR TB case management
10. Conduct studies to evaluate interventions aimed at curbing high loss to follow up among mobile TB patients (e.g., cross border)
11. Conduct studies on TB in work places (Mines, factories, etc.)
12. Conduct studies to determine the prevalence of latent TB among health care workers
13. Conduct studies to assess acceptability of new TB technologies and strategies by patients and health care workers
14. Conduct studies on NTMs and Zoonotic TB- Evaluation of drug resistance
15. Conduct studies to assess the impact of making Xpert MTB/RIF as an initial test for all presumptive TB cases on the DR-TB case detection

C. Viral Hepatitis

1. Conduct KAP studies on viral hepatitis
2. Conduct studies to evaluate current health sector interventions for viral hepatitis and recommend strategies to improve the response
3. Conduct studies to determine the magnitude of viral hepatitis in Zambia
4. Conduct studies to assess level of compliance in prevention of hepatitis B and C (including prevention of mother to child transmission) at national level
5. Conduct studies to evaluate the management and outcomes of chronic hepatitis B and C in Zambia

3.1.3 Neglected Tropical Diseases

1. Conduct studies to determine the magnitude of various types of NTDs in Zambia
2. Conduct studies to assess the knowledge of and attitudes towards NTDs by health workers and community in Zambia
3. Conduct studies to assess the perception of community members on MDAs and impact MDAs for NTD control
4. Conduct studies to determine the burden of PRDs (Lymphatic filariasis, Elephantitis, Trachoma, Taeniosis & Cysticercosis, Mycetoma, soil transmitted helminths [STH], cryptosporidiosis)
5. Conduct Epidemiological studies on vector borne NTDs
6. Conduct studies on the Socio-anthropological determinants and frameworks for NTDs control
7. Conduct studies to determine association between NTDs/PRDs (inclusive poverty indicators) and health indicators
8. Conduct studies aimed at improving diagnostics
9. Conduct implementation research studies on NTDs
10. Conduct studies on integrated control for NTDs
11. Conduct studies on socioeconomic determinants of NTDs, inclusive PRDs

3.1.4 Malaria

A. Vector Control

1. Conduct studies to determine how effective and efficacious the next generation IRS products are compared to the current products in Zambia
2. Conduct studies to determine the level of IRS coverage will be effective for community protection

3. Conduct studies to determine the factors associated with coverage and use of ITNs
4. Conduct studies to determine the most cost-effective IRS strategy within the context of universal ITN coverage
5. Conduct studies to compare different IRS strategies to maximize finite resources in Zambia.
6. Conduct studies to determine the insecticide durability, integrity and retention rate of ITNs currently in use
7. Conduct studies to evaluate or assess alternative interventions targeting outdoor biting malaria vectors
8. Conduct studies on climate change and vector ecology

B. Case Management

1. Conduct studies to determine the prevalence of HRP2 deletion among the *P. Falciparum* parasites population in Zambia
2. Conduct studies aimed at investigating Malaria parasite genomics
3. Conduct studies to determine the impact of mHealth enhanced supportive supervision, supply chain management, referrals and reporting on appropriate integrated community case management of malaria, diarrhea and pneumonia – a cluster randomized trial.
4. Conduct studies to determine the distribution of the different malaria parasite species across the 10 provinces in Zambia
5. Conduct studies aimed at evaluating and developing new malaria diagnostic tools
6. Conduct studies to determine the effectiveness of current pre-referral practices for malaria at community and health facilities
7. Conduct studies to determine the effectiveness of the current referral system for malaria from community to health facility
8. Conduct studies to determine the effectiveness of PBF in retention of community health workers
9. Conduct studies on the clinical manifestations and predictors of severe malaria
10. Conduct studies to assess G6PD deficiency and hemoglobinopathies in areas targeted for MDA, especially with primaquine

C. Malaria in Pregnancy

1. Conduct studies to assess the current burden of malaria in pregnancy in the three epidemiological zones of malaria transmission in Zambia
2. Conduct studies to assess the impact of IPTp on malaria in pregnancy in the current three epidemiological zones of malaria transmission in Zambia
3. Conduct studies to determine how adherent health care providers are in ANC clinics in giving IPTp-SP as DOT
4. Conduct studies to determine whether screening and treatment at first antenatal attendance would improve the efficacy of IPTp-SP
5. Conduct studies to assess the knowledge, attitudes and practices of health workers with regard to the ITN policy on pregnant women
6. Conduct studies to determine the current prevalence of congenital malaria in the current three epidemiological zones of malaria transmission in Zambia
7. Conduct studies to assess the role of cotrimoxazole in the prevention of malaria in pregnancy
8. Conduct studies to assess the knowledge, attitudes and practices in communities in relation to malaria in pregnancy

9. Conduct studies on prohibitive barriers to early disclosure of pregnancy
10. Conduct studies to determine the outcome of pregnancy in relation to the frequency of intake of IPTp-SP

D. Program Management

1. Conduct studies to assess the suitability of the current project management structure for malaria elimination strategy
2. Conduct studies on factors contributing to the low implementation, achievements and impact or aspirations of the last five-year National Malaria Strategic Plan
3. Conduct studies on modalities that are necessary for coordinating malaria research in Zambia
4. Conduct studies on the optimal threshold in terms of cost to eliminate malaria in Zambia
5. Conduct studies to investigate the minimum human resource needs for malaria elimination in Zambia; competence, numbers, spatial distribution and motivation in achieving malaria elimination
6. Conduct studies on factors that impede compliance to technical malaria guidelines by health workers
7. Conduct studies to assess the level of use of evidence in decision making for malaria elimination
8. Conduct studies to assess effective implementation strategies for using MDA across all malaria transmission zones in Zambia
9. Conduct studies to determine how to institutionalize best practices in information management system, interoperability and end user verification
10. Conduct studies to assess the effectiveness and efficiency of malaria logistics management systems, including end use verification in malaria elimination

E. Social and Behavior Changes Communication (SBCC)

1. Conduct studies to assess the attitudes and behaviors of health providers in prescribing ACT in un-confirmed malaria cases?
2. Conduct studies to measure the extent of non-adherence to treatment guidelines among health providers in relation to ACTs.
3. Conduct studies to assess the role of primary school going children on net use and care within their households.
4. Conduct studies to explore barriers and facilitators associated with IRS uptake in urban and rural areas.
5. Conduct studies aimed at understanding how community leaders can influence their communities to sustain gains in populations where malaria has significantly reduced.
6. Conduct studies to evaluate community engagement and behavior change on uptake of key malaria intervention.

F. Strategic Information and M&E

1. Conduct studies to assess how effective, feasible and scalable the Community DHIS2 (mHealth enhanced iCCM) is in capturing community-based malaria data
2. Conduct studies on the factors leading to the discrepancies of RDT stocks between the end user and the supply site
3. Conduct studies on the factors leading to discrepancies between IRS data capture tools and data that is reported on the ground
4. Conduct studies to explore best ways of analyzing and utilizing current data
5. Conduct studies on the effectiveness and feasibility of scaling up the weekly reporting system

6. Conduct studies to investigate the most effective feedback mechanisms to stakeholders and to the communities to facilitate data driven decision making
7. Conduct studies on trends in the efficacy of the currently available insecticides

G. Control and Epidemic Response

1. Conduct studies to evaluate the country's ability to detect and respond to epidemic
2. Conduct studies to assess improvements to the surveillance system in elimination
3. Conduct studies to investigate cost-effective combination of interventions that can lead to malaria elimination in different epidemiological set
4. Conduct studies to assess the effectiveness of MDA in reducing malaria prevalence in all epidemiological zones
5. Conduct studies to evaluate drug-based interventions for malaria elimination
6. Conduct studies to assess the malaria disease burden according to different cohorts and appropriate approaches
7. Conduct studies to assess pre-service and continuous medical education as part of the malaria elimination agenda

3.1.5 Non-Communicable Diseases

A. General Research Priorities on Non-Communicable Diseases

1. Conduct studies to determine the morbidity and mortality attributed to NCDs in Zambia
2. Conduct studies that aim to come up with strategies to strengthen interventions that address the prevention and control of NCDs
3. Conduct studies to identify new screening techniques and surveillance methods for NCDs in Zambia
4. Conduct studies on geriatric health
5. Conduct studies to determine best strategies to integrate management of NCDs with other health conditions
6. Conduct studies to assess health facility capacity to manage NCDs (human capacity, equipment, space)
7. Conduct Studies on Musculo-Skeletal diseases

B. Research Priorities on Cancer

1. Conduct studies to evaluate socio-economic and medical factors associated with Kaposi Sarcoma treatment outcomes
2. Conduct studies on cancer trends in Zambia
3. Conduct studies to demonstrate genomics, proteomics and metabolomics in pre-cervical cancer and invasive cervical cancer to identify high risk factors associated with rapid progression from pre-cancer to invasive cancer.
4. Conduct studies that explore new technology for cervical cancer diagnosis
5. Conduct studies on cancer epidemiology and surveillance in Zambia
6. Conduct studies on prevention and early detection strategies for common cancers in Zambia
7. Conduct studies on improving access to cancer screening and diagnostic services
8. Conduct studies to investigate the impact of lifestyle factors on cancer risk
9. Conduct studies to evaluate cancer treatment modalities and outcomes
10. Conduct studies on palliative care and support services for cancer patients

C. Research Priorities on Mental Health

1. Conduct studies to improve management of common mental health conditions (mood disorders, psychotic disorders, substance use disorders)
2. Conduct studies on policy and legal environment assessment of mental health in Zambia in order to improve the policy and legal environment for the care and treatment of mental health patients in Zambia
3. Conduct KAPP studies of communities in relation to mental health disorders
4. Conduct studies to identify the obstacles preventing integration of mental health care in primary healthcare
5. Conduct studies to evaluate diagnosis and management of neuro-psychiatric disorders
6. Conduct studies to assess the non-pharmacological mental health interventions for strategy and implementation in Zambia
7. Conduct studies on the prevalence, incidence, identification, prognosis and management of mental health disorders

D. Research Priorities on Cardiovascular Disorders

1. Conduct studies aimed at improving the prevention and management (diagnosis, treatment, and monitoring) of cardiovascular disease, especially at the community level

E. Research Priorities on Diseases of the Endocrine (Focus on Diabetes)

1. Conduct studies on management (diagnosis, treatment, compliance management, and monitoring) of Diabetes, especially at the primary healthcare level

F Research Priorities on Road Safety

1. Conduct studies to evaluate the effectiveness of current road safety measures
2. Conduct studies on road traffic injury surveillance and data analysis
3. Conduct studies aimed at evaluating of road infrastructure and its impact on road safety
4. Conduct studies on driver behavior and attitudes towards road safety
5. Conduct studies on effectiveness of road safety education and awareness campaigns
6. Conduct studies to evaluate of traffic laws and enforcement strategies
7. Conduct studies aimed at assessing vehicle safety standards and regulations
8. Conduct studies on the impact of impaired driving (e.g., alcohol, drugs) on road safety
9. Conduct studies aimed at evaluating road safety interventions and programs
10. Conduct studies aimed at improving pedestrian and cyclist safety in urban and rural areas

G. Surgical Conditions

1. Conduct studies on strategies to improve access to quality surgery in rural areas
2. Conduct studies that aim to improve specific surgical techniques to improve patient outcomes

H. Oral Health

1. Conduct studies on the prevalence and incidence of dental caries and periodontal disease (baseline data)
2. Conduct studies on morbidity and mortality studies of oral diseases
3. Conduct studies on oral cancer trends
4. Conduct studies on congenital malformations; incidence and prevalence (Cleft lips and Palate)

5. Conduct studies on oral health financing and insurance
6. Conduct studies on impacts of oral health products (Amalgam + mercury)
7. Conduct studies on socio-economic impact of oral health and related studies
8. Conduct studies on oral health and general disease (HIV/TB/Diabetes/Cancer/Heart Conditions/ Maternal Health)
9. Conduct studies on oral health in special populations (Mental Health, Pediatrics, syndromic conditions e.g., Downs Syndrome)
10. Conduct studies on health hazards for oral health practitioners

3.1.7 Biomedical Science

1. Conduct studies that aim to assess the availability and quality of diagnostic services in Zambia
2. Conduct studies that evaluate effectiveness of point of care diagnostics services available in Zambia
3. Conduct studies on the impact of Pre and Post exposure Prophylaxis to infections such as Malaria, HIV
4. Conduct studies on the impact of pre and post prophylactic agents in surgical procedures
5. Conduct safety and efficacy clinical trials using new drugs for the management of non-communicable diseases

3.1.8 Health Promotion, Social Determinants, Environmental Health, Primary Health Care, and Community Health

1. Conduct studies to assess the capacity of district hospitals and health centers to deliver health services at the community level
2. Conduct studies to assess the effectiveness, viability, scalability of currently available community financing schemes
3. Conduct studies to assess the cost effectiveness of incentive schemes for CBV
4. Conduct studies to come up with innovative health systems and service delivery models at the community level
5. Conduct studies aimed at strengthening community action and personal skills development for health promotion
6. Conduct studies to assess the level of multi-sectoral collaboration amongst various stakeholders in line with the decentralization policy to address social determinants of health
7. Conduct studies on the competence of Community Based Volunteers (CBVs) in the management of minor illnesses and the challenges they are facing
8. Conduct studies to assess the capabilities of the communities' ability to respond to health emergencies, public health effects, and consequences of disasters and climate change impacts
9. Conduct studies to examine existing models looking at integrating health promotion, disease prevention, control, and surveillance in the African region
10. Conduct studies to assess the status of community based HMIS data management

3.2 Health System Research Priorities

3.2.1 Human Resources for Health

1. Conduct studies to assess the effectiveness of task-shifting system/placement in Zambia
2. Conduct studies to inform the development and implementation of appropriate mechanisms for more equitable distribution of qualified health workers, including improved targeting, placement, and regulation of staff posting

3. Conduct studies to assess the effectiveness of the human resource appraisal system in the public institutions, statutory boards and private health institutions
4. Conduct studies to identify innovative ways to improve efficiency and effectiveness in utilization of existing staff
5. Conduct studies to assess the capacity of public and private institutions to absorb trained health personnel from private and public training institutions
6. Conduct studies to assess adherence to the government and professional bodies set standards for health training institutions
7. Conduct studies to review the Community Health Assistants/Workers (CHA/Ws) programme and how to optimize their roles at the community level

3.2.2 Essential drugs and medical supplies

1. Conduct studies aimed at improving the quality of drugs and medical supplies in the public and private health sectors
2. Conduct studies to determine factors associated with challenges experienced in the nutrition supply chain management
3. Conduct pharmacovigilance studies to actively monitor and report adverse events with the use of Anti-HIV, Anti-TB and other drugs.
4. Conduct studies to determine acceptability of injectable contraceptives - e.g., Sayana Press (DMPA SC)
5. Conduct studies to determine the level of misuse of essential drugs.
6. Conduct studies to assess practices and impact of self-medication, and dispensing non-prescribed drugs
7. Conduct studies to establish researchers' adherence/compliance to national and international clinical trial regulations and guidelines
8. Conduct regulatory impact assessment studies of clinical trial regulations/guidelines in Zambia

3.2.3 Infrastructure and equipment

1. Conduct studies to assess health institution infrastructure and equipment in relation to the epidemiological information generated at each facility.
2. Conduct studies to assess the nature/type and state of equipment available in health institutions
3. Conduct studies to assess the adequacy of health infrastructure
4. Conduct studies to assess the utilization of technology advancements in health institutions
5. Conduct studies to assess the procurement of medical equipment and related supplies

3.2.4 Health information

1. Conduct implementation research studies on Health Information Systems in health institutions
2. Conduct studies on data utilization at all levels of the healthcare system for policy makers
3. Conduct studies to assess the extent to which digital technology has been used in capturing and management of health information

3.2.5 Health care financing

1. Conduct studies to assess the public awareness, perception and accessibility of the health insurance schemes
2. Conduct studies that aim to find best options for financial resource allocation in the health sector to promote equity

3. Conduct studies to assess the impact of the Public Health Insurance Scheme in Zambia
4. Conduct studies to assess the impact of partner financial support on the Zambian Health System

3.2.6 Leadership and governance

1. Conduct studies that evaluate strategies on transparency and accountability of the governance systems at all levels of health service delivery
2. Conduct studies to assess the level of collaboration between the private and public health institutions in health service delivery
3. Conduct studies to evaluate the impact of healthcare decentralization on key health sector indicators
4. Conduct studies to evaluate the level of training given in leadership and governance issues to management officers at all levels in the Ministry of Health

3.2.7 Service Delivery

1. Conduct studies to assess the quality of care at all levels of the healthcare system to determine bottlenecks and recommend what needs to be done to improve health outcomes
2. Conduct studies to evaluate service provision as per service delivery charters in public and private health facilities

3.2.8 Novel/Innovative/Discovery Research

1. Conduct studies that will identify and evaluate potential vaccines, prophylactic and other chemotherapeutic agents
2. Conduct genomic studies to improve precision public health and precision or personalized medicine
3. Conduct studies that will develop new disease models for candidate drug evaluation research for cancer, existing and emerging infections
4. Conduct studies for the development, modification, evaluation and optimization of existing and new diagnostic kits and drugs

3.3 Traditional, Complementary, and Alternative Medicine

1. Conduct studies to evaluate and scientifically validate the safety and efficacy of known traditional, complementary, and alternative medicines.
2. Conduct studies that would formulate safe and efficacious scientifically validated traditional, complementary, and alternative medicines for use in the management of various illnesses
3. Conduct studies that would evaluate the impact of mass deforestation and bush clearing on the biodiversity that affects medicinal plants
4. Conduct studies to evaluate the level of collaboration between conventional and traditional practitioners.
5. Conduct feasibility studies that will inform policy on formalization of referral mechanisms encompassing traditional healer-to-traditional healer, traditional healer-to-hospital/clinic and clinic/hospital-to-traditional healer system.
6. Conduct studies to document and classify the medicinal plants in Zambia
7. Conduct toxicological and forensic studies in traditional, complementary, and alternative medicines

3.4 Disease outbreak, Control and Surveillance

1. Conduct a national outbreak risk mapping study
2. Conduct a review of the national outbreak responses over a five-year period

3. Conduct molecular analysis of isolates from cases during outbreaks over a period of five years
4. Conduct studies aimed at providing evidence for preventing and responding to epidemics.
5. Conduct studies for COVID-19 in infectious prevention and control
6. Conduct studies for COVID-19 in therapeutics and vaccines
7. Conduct social science studies as part of disease outbreak response

3.5 Emerging Public Health Issues

A. Climate Change and Health

1. Conduct studies on climate change impact assessment on key sectors (e.g., agriculture, water resources, health)
2. Conduct studies on the vulnerability and adaptation strategies for rural communities in the face of climate change
3. Conduct studies aimed at assessing the impact of extreme weather events on infrastructure and human settlements
4. Conduct studies aimed at investigating the relationship between climate change and vector-borne diseases in Zambia
5. Conduct studies aimed at evaluation of renewable energy options for mitigating climate change
6. Conduct studies aimed at assessing the carbon footprint and greenhouse gas emissions of different sectors
7. Conduct studies aimed at assessing climate change and food security in Zambia
8. Conduct studies aimed at evaluating the effectiveness of climate change policies and initiatives
9. Conduct studies to assess climate change and water resource management in Zambia
10. Conduct studies aimed at climate change communication and public awareness strategies

B. Occupational and Environmental Health

1. Conduct studies aimed at improving occupational safety in workplaces
2. Conduct studies on occupational health associated complications, particularly in the mining and construction industries
3. Conduct studies on the impact of environmental contaminants on human health
4. Conduct studies on the health effects of the IRS and other insecticides on human health and the ecosystem
5. Conduct studies on work-related musculoskeletal disorders and ergonomic interventions
6. Conduct studies on occupational exposure to chemical and biological agents
7. Conduct studies on occupational health and safety management systems
8. Conduct studies on mental health and well-being in the workplace
9. Conduct studies on occupational diseases surveillance and prevention
10. Conduct studies aimed at evaluating occupational health services and programs

C. Data Science for Human Health, Implementation Research and Clinical Trials

1. Conduct studies in Genomics, epigenomics, transcriptomics, proteomics, bioinformatics, metabolomics and other “omics” studies
2. Conduct studies in predictive modelling and predictive maintenance
3. Conduct studies in healthcare data systems, data curation, meta-learning, data warehousing/ repositories, big data analytics
4. Conduct studies in auto-machine learning, artificial intelligence, and recommender systems
5. Conduct studies in clinical trials and implementation research



Chapter 4: Research Priorities Implementation Framework

4.1 Coordination mechanism

The implementation of the national health research agenda will be implemented through the coordination of the NHRA. To make this work more effectively, all researchers will be required to notify NHRA the topic of their intended research at the design stage as soon as the study's funding is confirmed (irrespective of the funding agency) and a protocol is ready for submission to research ethics committees.

4.2 Stakeholders

For purposes of this research agenda, we divide stakeholders into: Permanent Secretaries of key government line ministries representing policy makers; Health Research Funding agencies/Cooperating Partners, including private sector; Provincial Health Directors, District Health Directors, heads of research institutions, both public and private; heads of academic institutions; researchers; university students in health-related fields; all health workers; research ethics committees and institutional review boards. In line with the health in all policy the research authority will endeavor to encourage collaboration and synergies of research activities among all line ministries. However, the key stakeholder ministries will be: Ministry of Higher Education, General Education, Agriculture, Livestock and Fisheries.

4.3 Financing arrangements

Financing is critical to the implementation of this research agenda and different financing mechanisms will be pursued as described below:

a. Government Financing

The government of Zambia through the Ministry of Health will commit financial resources to directly fund research activities at district and health facility levels.

b. National Health Research Trust Fund Grants

The National Health Research Authority has set up a Research Fund to support priority research activities based on scientific merit.

c. Public Private Partnerships (PPPs)

As part of its research promotion activities, the NHRA will mobilize private sector support to fund priority research activities in addition to the basket funding through the research fund. In its Strategic Plan for 2022-2026, the NHRA has planned to hold at least one private sector resource mobilization engagement activity annually. Researchers and research institutions will also be encouraged to target private sector funding in Zambia.

4.4 Global Research Granting Schemes

This continues to be the commonest mechanism for funding research where researchers respond to requests for applications (RFAs) from various research funding organizations. The NHRA will facilitate this further by providing a database of all the research funding organizations. NHRA will also conduct capacity building training courses in grant applications and project grant management.

4.5 Research dissemination and Knowledge translation

To facilitate the dissemination of research outputs from the research agenda, the NHRA will undertake the following activities:

- Host National Health Research Conferences Bi-Annually
- Operate a Scientific Journal
- Create and operate a forum for ongoing research dissemination
- Facilitate monthly scientific meetings for researchers to share their research results.
- Train and mentor researchers in knowledge translation
- Compile and analyze evidence on priority policy issues and develop policy briefs

Chapter 5: Research Priorities Monitoring and Evaluation Framework

The monitoring and evaluation framework will be part of the National Health Research Authority Monitoring and Evaluation Plan.

Table 2 below is a summary of the key performance indicators based on the specific objectives of the Research Agenda:

Objectives	Indicators	MOV	Baseline			
			2022	2023	2024	2025
Align health research outputs with the national health research priorities	% of research studies that are in line with the health Research Agenda	NHRA database through routine M&E	TBD	50%	60%	75%
Guide researchers, policy makers, program implementers, academic institutions, health development partners and other stakeholders on health research priorities	% of research institutions with a copy of the national health research agenda	Routine M&E and Inspections of Research Institutions	TBD	60%	75%	85%
	% of research institutions with at least one researcher who has attended an orientation meeting to the national health research agenda	Routine M&E and Inspections of Research Institutions	TBD	25%	35%	50%
	% of registered health researchers who have a copy of the national health research agenda (electronically or in print)	NHRA Data base through an online survey	TBD	50%	75%	85%
Provide a guide for national health research activities to address national health research gaps and needs	% of research activities implemented under each priority thematic area	NHRA Data base	TBD	15%	25%	35%
	% of qualifying research applications funded through the research fund	NHRA Financial records	0	1%	5%	7.50%
Provide a guide on research areas to be funded through the National Health Research Fund	% of registered health researchers who know the existence of the Research Fund and how to access the funds	Online survey	0	50%	75%	85%

The NHRA will develop monitoring and evaluation tools to measure the indicators in the M&E Framework above. Some of the tools will include:

5.1 Checklist for request to conduct research

The checklist for submissions to NHRA requesting to conduct research will have an element of whether the study addresses any of the national health research priority areas as well as the necessary ethical approvals

5.2 Record of published studies that address national health research priorities

An evaluation will be undertaken to establish among other things adherence to the research agenda and the utilization of the research agenda. The evaluation will be conducted in 2024 after which a new research agenda will be developed.

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