MINISTRY OF HEALTH

GUIDELINES FOR RESEARCH IN TRADITIONAL, COMPLEMENTARY, AND ALTERNATIVE MEDICINE IN ZAMBIA

September 2018

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FOREWORD

It is common knowledge that a large percentage of our people in Zambia access Traditional, Complementary or Alternative medicine (TCAM). In fact according to statistics, about 70% of the population use Traditional Medicine (TM) at one point or another.

Time is therefore long overdue to start looking at how we can effectively exploit this important resource of health care especially in the wake of drug resistance and escalating prices of conventional medicines.

I am therefore very pleased to endorse these guidelines on research in traditional, complementary, and alternative medicine. It gives guidance on how traditional and other non-conventional healers in the country can make their medicines or products available for scientific analysis to elucidate their potency, safety and efficacy. The guidelines will also assist Ethics Committees in Zambia in the review and approval process of research protocols submitted to them. It is hoped that research will identify and prioritize those traditional medicines from the country's rich heritage of medicinal plants that are able to fight diseases such as Cancer, Mental disorders, Hypertension, Diabetes, HIV/AIDS, Malaria and many other conditions of public health significance. It is also expected that research will determine the effectiveness of many currently available complementary and alternative therapies in Zambia.

I wish to take this opportunity to thank all individuals and institutions that took part in the development of these guidelines, which will now pave way for intensive research in traditional, complementary, and alternative medicine.

Chitalu Chilufya, MP
MINISTER OF HEALTH

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The National Health Research Authority appreciates the efforts and expertise put into this document and the partnership and cooperation displayed during the development of these Guidelines. It is our hope and trust that we shall all work together to utilize these guidelines for research and development of traditional, complementary, and alternative medicines for the realization of the Zambian Health Vision.

Professor Evarist Njelesani

CHAIRPERSON, NATIONAL HEALTH RESEARCH AUTHORITY

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
CIDRZ	Centre for Infectious Disease Research in Zambia
CTCAM	Community Traditional, Complementary, and Alternative Medicine Committee
DHMT	District Health Management Team
DTCAM	District Traditional, Complementary, and Alternative Medicines Committee
GRZ	Government of the Republic of Zambia
HSSP	Health Systems Strengthening Program
HIV	Human Immunodeficiency Virus
INESOR	Institute for Economic and Social Research
MOH	Ministry of Health
MoU	Memorandum of Understanding
NAC	National AIDS Council
NHRA	National Health Research Authority
NHRAC	National Health Research Advisory Committee
NHC	Neighbourhood Health Committee
NISIR	National Institute of Scientific and Industrial Research
NMCC	National Malaria Control Centre (now National Malaria Elimination Centre)
NSTC	National Science and Technology Council
NTCAM	National Traditional, Complementary and Alternative Medicine
PI	Principal Investigator
PRA	Pharmaceutical Regulatory Authority (now Zambia Medicines Regulatory Authority)
SPSS	Statistical Package for Social Sciences
TCAM	Traditional, Complementary, and Alternative Medicine
TDRC	Tropical Diseases Research Centre
THP	Traditional Health Practitioner
THM	Traditional Herbal Medicines
THPAZ	Traditional Health Practitioners Association of Zambia
THPO	Traditional Health Practitioner Organization
TM	Traditional Medicine
UNZA	University of Zambia
UTH	University Teaching Hospital
WHO	World Health Organization
ZHUO	Zambia Herbalist United Organization
ZMA	Zambia Medical Association
ZNCN	Zambia National Council of Ngangas
ZAMRA	Zambia Medicines Regulatory Authority
ZINARE	Zambia Institute for Research in Traditional Remedies

Description of Terms

1. **Traditional Medicines** - is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness.

2. **Traditional Healer** - means person engaged in the practice of traditional medicine in one form or the other.

3. **Village of Origin (VO)** - a term adopted to define the geographical site that the sample has been originated or accessed from.

4. **Screening** - refers to a process of deciphering herbal plant materials submitted for evaluation with a view to get the most promising ones.

5. **Selecting -** refers to a process that involves interested party to go out to seek the materials used in traditional herbal medicines by the communities.

6. **Herbal medicines -** is used to describe cocktails prepared from plants materials and used in management of various ailments among communities in Zambia.

1.0 Background

Zambia, despite its great passion and high political commitment to promote research in Traditional Medicine (TM), has not made much progress much mainly because it lacks a well-structured institutional and operational framework to facilitate such research. One key question that has often arisen is; when a particular traditional healer has what they think can cure or effectively treat a particular disease or condition, and would like to have it scientifically evaluated, where do they go? These Guidelines have put in place such arrangements which guide the process from identification of potential remedies at the community level to the time when they are scientifically and clinically evaluated. These *Guidelines for Research in Traditional Medicines in Zambia* have been adopted and adapted from the World Health Organization (WHO) document AFR/TRM/04.4 on "Guidelines for Clinical Study of Traditional Medicines in the WHO African Region" by biomedical researchers for clinical study of traditional medicines.

One of the key elements hindering the process of registration of traditional medicines and their subsequent rational use in Zambia is the lack of valid clinical data on their safety and efficacy. It is hoped that this document will also provide guidelines to the Ethics Committees in their review and approval of such protocols to promote the generation of valid clinical data on traditional medicines. Although the effectiveness of traditional medicines has been reported based on long- term traditional use, clinical studies play a significant role in proving their effectiveness in a scientific manner. Well-designed Clinical studies will provide the necessary evidence of efficacy and safety of traditional medicines and will facilitate their integration into mainstream health care and ensure its expanded use. Clinical studies also provide valid data for further development of potential innovative new medicines from traditional medical recipes and medicinal plants.

It is recognized in this document that there are other alternative remedies such as Spiritual healing (Spiritism, auto-psychology & autosuggestion) and use of other materials involving animal material, soil, insects, etc. that are being practiced in Zambia. However provisions for such research in this segment of remedies is not addressed in the scope of this document.

2.0 Introduction

Traditional medicine has been used since the existence of humankind in all nations for the management of various diseases from self-limiting to life-threatening illnesses. In the African Region, where about 80% use traditional medicine for their health care needs, this traditional medical knowledge is transmitted principally through oral tradition while some recipes are

disclosed only to family members for some specific diseases. In order to access traditional medicines there is need for a system in the country that will enable the Traditional Health Practitioners (THP's), Herbalists, Naturopathic practitioners and other users of traditional, complementary, and alternative medicine (TCAM) to declare their medicines for investigation, while at the same time ensure the protection of their intellectual and property rights from abuse and fully addressing their interests as holders of indigenous knowledge.

3.0 Purpose of the guidelines

The purpose of this document is to promote research in traditional herbal medicine and facilitate the access and evaluation of the quality, safety and efficacy of traditional herbal medicines using acceptable clinical and laboratory methodology after observation. This document will assist Zambian researchers to standardize the methodology for laboratory and clinical evaluation of traditional herbal medicines. The document offers a framework by which all traditional health practitioners and other non-conventional health practitioners in the country can enter the screening process, which will lead to their medicines or products being prioritized for evaluation.

This document is intended for use by health institutions conducting research, including agencies, companies, involved in the development of traditional medicines in the country such as traditional health practitioners, naturopathic practitioners, pharmacologists, pharmacists, professionals and individuals.

4.0 The process for identifying study products for Research

Traditional healers and practitioners of complementary and alternative medicines are scattered all over the country from the remotest village to the densely populated urban areas, ranging from the registered practitioner to the family medicine man/woman. These traditional healers, herbalists and other users of traditional, complementary and alternative medicine have various medicines and products that have been used to treat various illnesses over generations but have not undergone laboratory and/or clinical evaluations for efficacy and safety. So these guidelines provide a process for accessing these traditional medicines for scientific evaluations.

The approach is to utilize existing structures and expertise, as much as possible; and to evaluate their efficacy in their crude form and as much as possible in the traditional environment, before botanical identification and chemical analysis of active ingredients is done. Currently, arising from the large numbers of TCAM practitioners in the country a number of the practitioners have come together to form organizations and associations to oversee their activities. In Zambia there are three such organizations, The Traditional Health Practitioners Association of Zambia (THPAZ), The Zambia National Council of Ngangas (ZNCN) and the Zambia Herbalist United Organization (ZHUO). At the same time, there are already established Ministry of Health structures from the community to the national level. With this in mind then, the following shall be the process of screening that will enable the nation to identify medicines for scientific evaluations as described in sections below:

4.1 Identification, linkage and documentation at the Community Level

Village Headmen, Environmental Health Technologists, Community Health workers will form the Community Traditional, Complementary, and Alternative Medicine Committee (CTCAM), which shall be a sub-Committee of the Neigbourhood Health Committee (NHC). The function of this committee will involve the identification of commonly used traditional herbal medicines for curing specific ailments. Screening and documentation of the traditional herbal medicines will be conducted using an assessment tool annexed (Appendix 1). The CTCAM will have a Chairperson and a Secretary appointed by the members of the Committee from among themselves to serve for a prescribed period of time as determined by the Committee. The Secretary shall serve as the TCAM Focal Point Person for that Community and will be the person to complete Appendix 1 and submit to the Committee for discussion. Each practitioner will be given a letter acknowledging receipt of their submission. As much as possible, the following will be recorded from the samples: Name of the practitioner, village of origin and village headman's name, code number of sample, date of submission, disease(s) type on which it works, form and mode of administration, contraindications, length of administration, etc. .

4.2 Screening and documentation at District Level

All TCAMs selected from the Community level will be submitted to the District Traditional, Complementary, and Alternative Medicines Committee (DTCAM), which will be a subcommittee of the District Health Management Team (DHMT). This Committee shall consist of a Botanist, Health Professional DHMT, Pharmacist, Council Representative (Appointee of Town Clerk), Culture Representative (Cultural), Naturopathic Representatives if available and 3 representatives of Traditional Health Practitioners' Organizations (THPO). The DTCAM will have a Chairperson and a Secretary appointed by the members of the Committee from among themselves to serve for a prescribed period of time as determined by the Committee. The Secretary shall serve as the DTCAM Focal Point Person for that District and will be the person to complete Appendix 1 and submit to the Committee for discussion.

The DTCAM will screen the medicines submitted from the CTCAM. All the samples that do not meet a pre-determined selection criteria for sampling will be sent back for more information, archived in the herbaria, or discarded. The district team will assess the herbal medicines material using the Assessment Tool in Appendix 2 which will be completed by the Chair of the DTCAM before each meeting of the committee and submitted to the committee for discussion. All traditional herbal medicines that pass the selection, screening and documentation processes will be submitted to the national traditional, complementary and alternative medicine (NTCAM) committee.

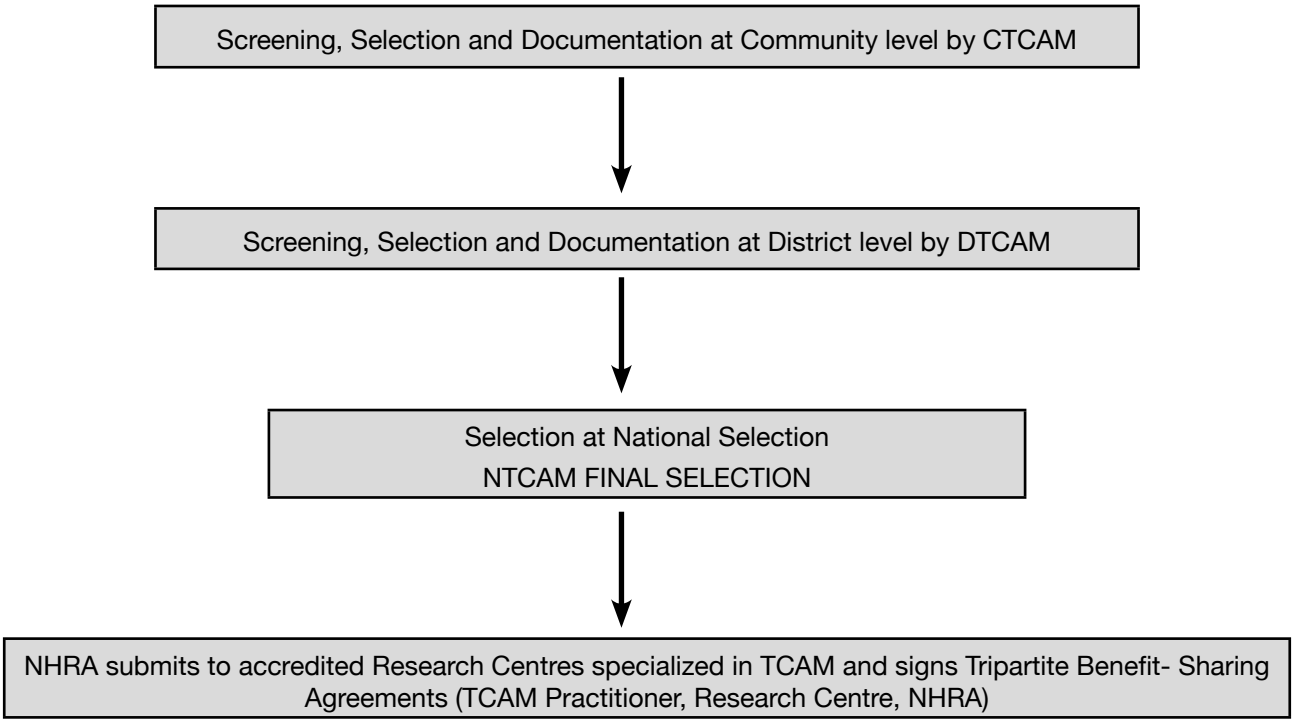
4.3 Final Selection at National Level

A National committee to be called the National Traditional, Complementary and Alternative Medicine (NTCAM) committee will conduct the final screening and selection at the National Level. This Committee will have two representatives from the THPAZ, three representatives from the National Health Research Authority (NHRA), one representative from the Tropical Diseases Research Centre (TDRC), one representative from the National Institute of Scientific and Industrial Research (NISIR), one representative from the Zambia Medical Association (ZMA), one representative from the Ministry of Health (MOH), one Botanist from the University of Zambia, two co-opted pharmacists, and one representative from the Zambia Institute of Natural Medicines and Research (ZINARE).

Upon receipt of the traditional medicines the NTCAM will arrange for scientific assessments to detect the presence of harmful contaminants such as heavy metals, pesticides, micro organic contaminations etc. in traditional medicines or other products presented where applicable. The criteria for screening and final selection will be formulated by the Committee itself and its decision shall be final. The NTCAM will then submit its report and decisions to the NHRA through the Director and Chief Executive Officer. The NHRA will then submit the selected TCAM products to research centres registered and accredited to conduct research in traditional, complementary, and alternative medicine by the NHRA. The choice of which research centre to send a particular product will depend on the expertise of the respective research centres as recorded and assessed by the NHRA.

Schematic presentation of the process of identification of TCAM is given in Figure 1 below.

Fig. 1 Schematic Diagram of the Screening Process



It is important at this initial stage to define who owns the intellectual property rights of the traditional medicine, i.e. whether this belongs to an individual traditional health practitioner, a group of health practitioners or a whole community or indeed an ethnic group. Steps should be taken to protect their intellectual property rights with a view to drawing up a benefit-sharing agreement should the research proceed any further. The benefit-sharing agreement will be signed by the THP/owner of herbs, the Research Institution evaluating the herbs, and the NHRA, representing the government of the republic of Zambia (GRZ).

5.0 Scientific Evaluation

The general objective is to evaluate the safety and efficacy of the TCAM. The scientific evaluation of the chosen medicines will be conducted in two stages. The first stage is the "preliminary evaluation" while the second stage will be the "clinical trial" with various phases.

5.1 Preliminary evaluation (Observational studies)

5.1.1 Objective

The objective for this stage is to conduct preliminary safety assessments and to generate clinical and laboratory data which will guide the decision regarding the further conduct of more detailed scientific study of the TCAM being studied. The TCAM found to have the most curative potential according to the end point will be recommended for full clinical trial. TCAM found to be safe and efficacious would also be recommended for use as TCAM remedy but will not be recommended to be licensed as conventional medicine till full clinical trial has been completed and the results show safety and efficacy.

5.1.2 Research Team

The preliminary evaluation will be conducted by two (2) clinicians researchers with proven track record of research in the disease chosen for the study, two (2) laboratory personnel, one (1) bio- statistician, one (1) pharmacist or pharmacologist, at least one (1) nurse, one (1) botanist, and TCAM Practitioner or owner of the product who shall administer the product.

5.1.2 Main steps to be followed

The following important steps will be followed, with the guiding principle that research should be conducted in as much as possible in the natural environment:

a) To involve at least 50 participants with defined inclusion and exclusion criteria.

b) Obtain ethical clearance.

c) Choose endpoints for evaluation purposes.

c) Take participant clinical and laboratory baseline data before commencement of the observational study.

d) The dose of the traditional, complementary or alternative medicine will be determined by the dose used by the TCAM practitioner.

e) The TCAM practitioner must be registered with the Traditional Health Practitioners Association of Zambia (THPAZ) or other registered regulating body in Zambia for such practice.

e) Preparation and administration of TCAM will be conducted by the TCAM practitioner while the physician will conduct clinical and laboratory evaluation at chosen intervals.

f) The study can be conducted at the facility belonging to the TCAM practitioner.

g) Collection of biological samples may also be done at the TCAM practitioner's facility, subject to its adequacy for this kind of work. Alternatively, collection of biological samples can be carried out at the secondary site, which is the conventional health facility where laboratory investigations and monitoring of patients can be done.

5.2 Full Clinical Trial for Traditional, Complementary, and Alternative Medicines

5.2.1 Introduction:

TCAM products that have been found to be safe and efficacious from observational studies will qualify for full clinical trials.

5.2.2 Objective

The main objective for this stage is to scientifically and rigorously evaluate the safety and efficacy of the TCAM being studied. The overall goal is to discover products that are both safe and efficacious for use in human beings, with the aim of having those products licensed as conventional medicines.

5.2.3 Main steps to be followed:

The following important steps will be followed as adapted from WHO General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine (WHO/EDM/TRM/2000.1):

a) Step 1: Botanical verification and identification of active ingredients for studies involving herbal products

For herbal medications the first step should be the identification of the plant species and the active ingredients. As per WHO guidelines, where it is not possible to identify the active ingredients, the whole herbal medicine may be considered as one active ingredient.

b) Step 2: Literature Review

The research team should undertake an extensive literature search for any work that has been done on the product planned to be evaluated. The literature search should specifically look for *in vitro* and *in vivo* studies in animals and humans. Safety data will be critical to elucidate from literature. The search should also include efforts to gather information on closely related plant species for chemotaxonomic correlation. The theories and concepts of the individual practice of TCAM, as well as the cultural background of those involved, must be taken into account in the literature review.

c) Step 3: Toxicological Studies

The world health organization cautions that the absence of any reported or documented side-effects is not an absolute assurance of safety for herbal medicines. However, WHO also states that a full range of toxicological tests may not be necessary. Instead, tests which examine effects that are difficult or even impossible to detect clinically should be encouraged. We recommend at a minimum the following tests:

- Immunotoxicity (e.g. tests for allergic reactions), genotoxicity, carcinogenicity and reproductive toxicity.
- Renal and Liver toxicity tests
- Hematological toxicity tests

d) Step 4: Clinical Trials

Clinical trials should follow the following phases:

Phase 1: Assessment of the safety of the medicine in healthy volunteers (about 20)

Phase 2: Assessment of the efficacy and relative safety of the medicine in a few participants (numbering 100 to 200) at one study site. Pharmacokinetic and dose response studies should be conducted at this stage; which will assist in making a decision regarding the dosage and frequency of administration for phase 3.

Phase 3: Involves 200 to 1000 participants utilizing multiple study sites and aims at generating data on the safety and efficacy of the new medicine.

Phase 4: This is post-marketing surveillance, which targets the safety and efficacy of the new medicine in the general population after it has been registered and been in public use. Such studies may also reveal a new medical use for the medicine.

5.2.4 Research team

The composition of the research team is the same as the one for the preliminary evaluation and will consist of the following at a minimum: Two (2) Clinicians researchers with proven track record of research in the disease chosen for the study, two (2) Laboratory personnel, one (1) Bio- statistician, one (1) Pharmacist or pharmacologist, at least one (1) Nurse, and one (1) Botanist. The PI will be a Clinician. The TCAM will be part of the research team and will administer the study medicine (drug and placebo, depending on the study design).

5.2.5 Schedule of visits for clinical and biological evaluation

The study volunteers are expected to visit the health facility for initial baseline clinical assessment, then periodically, in accordance with the study schedule, till the end of the study. Samples will be collected from the study participants at the baseline and regularly for biological evaluation. The frequency and duration of collecting biological samples from the trial participants will depend on the target disease and the anticipated pharmacodynamics of the drug. Appropriate laboratory investigation forms should be designed which should indicate the types of tests to be carried out and their timing. The contents of such forms will vary according to the target disease.

5.2.6 Support for the participants

A subsidy for food and travel expenses of the patients, the cost of treatment at the health facility and allowances for members of the research team should be considered as part of the budget for the study. It is anticipated that such incentives would encourage the volunteers to attend the clinics regularly as per the schedule of visits.

5.2.7 Trial design

Researchers are free to design the study in a way that would produce the most valid results. Rigorous study designs are strongly encouraged.

5.2.7.1 End-points of the trial

The following is a general guide to the research team as they decide on the end points:

a) Primary end-points

i. Development of or delay in the development or resolution of symptoms associated with the disease or a significant reduction/complete clearance of parasites/organisms implicated in the etiology of the disease or death.

ii. Degree of quality of life (see details in Karnofsky Performance Scale)

b) Secondary end-points

i. Significant changes in the biological marker of the disease (e.g. hematological or immunological parameters).

ii. Development of drug-related toxicities sufficiently severe to warrant dose modification, interruption or permanent discontinuation.

5.2.8 Choice of disease for study

The choice of the disease to be studied should be guided by the National Health Research Agenda. The issues of the availability, affordability, effectiveness, safety and accessibility of conventional medicines for the chosen disease should also be adequately evaluated.

5.2.9 Treatment duration

A study period of 3 to 12 months is regarded as adequate to generate preliminary observational clinical data. The actual period will however be determined by the nature of the disease. For example, three and 12 months are the recommended treatment periods for clinical observational studies of traditional medicines used for the management of malaria and HIV/AIDS, respectively, subject to national regulations. For the full clinical trial, the duration will depend on, among other factors, the phase of the trial.

5.2.10 Discontinuation of treatment

Any participant is free to discontinue the trial at any time during the study. On the other hand, the PI may withdraw a participant from the study due to anaphylaxis and allergic symptoms of dyspnea or wheezing, itching or erythema. Furthermore, a participant may be withdrawn if he/she fails to respond to the treatment with the traditional medicine and his/her condition is deteriorating.

5.2.11 Treatment of adverse effects

It should be emphasized that the PI has the professional responsibility with regard to the management of adverse effects. It is recommended that appropriate interventions should take cognizance of the national standard treatment guidelines and associated complications.

5.2.12 Selection and withdrawal of Participants

The study participants are selected by the research team based on the selection criteria for the study. A categorical statement on the diagnostic criteria to be used should be stated to allow for uniformity and reproducibility. The criteria to be used for subject inclusion and exclusion should be properly described and should be as realistic as possible. Details regarding how and when to withdraw participants as well as how to treat the data from such participants should be clearly indicated. Furthermore, it should be indicated if the withdrawn participants are to be replaced and the modality for replacement.

5.2.13 Treatment of participants

The dosage and route of administration are indicated above. The follow-up periods should be clearly indicated and explained to the participants. As a general rule, conventional medicines should not be taken concurrently with traditional medicines in order to avoid possible harmful drug interactions. However, the PI may consider administration of certain conventional medicines depending on the disease(s) being treated and possible subsequent complications if untreated. The procedures for monitoring subject compliance with medication should be developed prior to the commencement of the trial and enforced during the trial.

5.2.14 Assessment of efficacy

It is important to specify the efficacy parameters as well as methods and timing for assessing, recording and analyzing them.

5.2.15 Assessment of safety

The specification of safety parameters and methods and timing for assessing, recording and analyzing them should be considered prior to the commencement of the trial. Furthermore, the procedures for recording and reporting the adverse effects and inter-current illnesses should be clearly established. In addition, this section should contain the type and duration of the follow up of the participants after adverse events. It is appropriate to use information contained in the Karnofsky Performance Scale in addition to the Adverse Events Record Form, Laboratory Investigations Results Sheet and ECG Results Sheet, in the assessment of the safety of the specific traditional medicine being evaluated.

5.2.16 Statistics

This section should contain the following:

a) A description of the statistical method(s) to be employed, including the timing of any planned interim analysis (ses).

b) The number of participants planned to be enrolled. In multi-centre trials, the number of enrolled participants projected for each trial site should be specified. The reason for the choice of the sample size, including reflections on (or calculations of) the power of the trial and clinical justification should be given.

c) A 5% level of significance is recommended using SPSS, Epi-info or any other suitable software for t-test.

d) Criteria for the termination of the trial.

e) Procedure for accounting for missing, unused and spurious data.

f) Procedures for reporting any deviation(s) from the original statistical plan (any deviation(s) from the original statistical plan should be described and justified in the protocol and/or in the final report, as appropriate).

g) The selection of participants to be included in the analyses (e.g. all randomized participants, all dosed participants and all eligible participants).

5.2.17 Direct access to source data/documents

This section should specify that the investigator(s) and institution(s) will permit trial related monitoring, audits, institutional ethical review board or council and regulatory inspection(s), providing direct access to source data/documents.

5.2.18 Quality control and quality assurance

Quality control and quality assurance are particularly relevant while conducting clinical trials with African traditional medicines because there are various factors that can impact on the quality of the product and consequently on the quality of data and the health of trial participants. Examples of such factors include concomitant use of other medicines during the trial, method and timing of plant collection, location of plants, harvesting and post-harvesting treatments, preparation procedure, storage, natural additives, preservatives and packaging. Thus, a planned method for standardizing the raw materials, finished products and the processes involved right from collection of the raw materials to the manufacturing of the product should be articulated and adhered to. A realistic monitoring system should be developed and implemented.

5.2.19 Ethical considerations

a) General

All parties should observe strict confidentiality about the results of the study. The whole study process and procedure should be explained to all trial participants and their consent obtained before recruitment. Counseling of trial participants should be conducted before, during and after the trial. The duration of counseling and post-trial care should be mentioned in the protocol and explained to all trial participants before the commencement of the study. The trial participants will have the option of withdrawing from the study at any time.

b) Informed Consent and Assent Form

An informed consent form should be designed which is relevant to the study. For children, an Assent Form should be designed. The form should be signed or thumb-printed by all trial participants or parents of children prior to the commencement of the study.

c) Patient information form

A subject information sheet contains relevant information in simple language on the purpose, limitations and expected outcomes of the study as well as known or anticipated side effects, safety and efficacy profiles of the traditional medicine. The contents of the form should be carefully explained to the study participant in the language he/she understands. The study participant should be given the opportunity to ask questions on the study procedure and the traditional medicine to be administered to him/her.

d) Approval of the study

The study protocol must be submitted to a registered and accredited Research Ethics Committee (REC) or Institutional Review Board (IRB) for ethical clearance and must be approved by the National Health Research Authority before commencement.

e) Standard of care

It is important that the trial participants are offered the best national standard of care throughout the study period. If the study sponsors agree with national researchers, the best international standard of care can be negotiated with the approval of national authorities. The best arrangement is where research related injuries or adverse effects are taken care of by the research team.

5.2.20 Data management

The nurse or whoever is so designated by the research team will collect data using designed data collection forms, which are subsequently entered into a computer with the aid of appropriate software by a designated researcher. The monitoring of data entry, appropriate record keeping and its security as well as access to the data should be part of the responsibilities of the PI.

5.2.21 Memorandum of understanding and intellectual property rights issues

A legal agreement involving the traditional health practitioner, the scientists, and the NHRA should, among others, clearly specify the responsibilities for patents or securing trade secrets on the products, ownership of the patents, trade secrets, arrangements for equitable benefit-sharing including royalties and initial lump-sum payment for traditional medical knowledge, plant collection, research and development activities and other specific responsibilities and penalties. The NHRA will develop a Model Agreement Form for this purpose.

6.0 Responsibilities of investigators

6.1 Principal investigator

The Principal Investigator shall be a distinguished health researcher who is well acquainted with the conduct of clinical trials and possibly also the management of clinical trials. The PI should be located at the institution where the research and development of the traditional medicine is going to be conducted. The PI shall manage the funds provided for the study. It is also the responsibility of the PI to take charge of the study and participate in follow-up activities. Furthermore, the PI shall supervise all assessments and ensure their technical quality and accuracy as well as monitor the study. The lead PI shall be a Zambian, while the Co-PI may be non-Zambian.

6.2 Traditional health practitioner

The traditional health practitioner shall formulate, prescribe and dispense the medicine directly to the study participants in the case of a clinical observational study. In addition, he/she will be involved in the psychosocial counseling and will attend all meetings concerning the project. At this stage, advice may be offered to the practitioner to assist him/her in the preliminary standardization of his/her product. However, appropriate scientific standardization will be undertaken later if data from this study indicate therapeutic potential.

6.3 Co-investigators

The co-investigator may be a clinician, a pharmacologist, a pharmacist or a nurse or any other member of the research team. The co-investigator will conduct the preliminary and follow-up examinations of the volunteers and make appropriate entries. He/she will also participate in other activities as may be assigned by the research team (e.g. data management, blood sample collection, laboratory investigations and research design). It is the duty of the research team to assign responsibilities to its members in accordance with relevant national regulations. In this context, refer to guidelines for good clinical practice for trials on pharmaceutical products, which describe in detail the responsibilities of the sponsors, investigators and monitors.

6.4 Statistician

To estimate the size of the study population needed in order to achieve statistically significant results; to plan the analysis of study results at the same time the study is being designed; and to assist in preparing the study design.

7.0 Financing and Insurance

A detailed budget should be developed and included in the protocol as an attachment. The financing of the study and insurance of trial participants should address these issues in a separate agreement, or they can constitute a part of the protocol.

Appendix 1: Community level Identification tool

(To be completed by the Community TCAM Focal Point Person)

Section A: 1.0. Personal and Contact Details of the TCAM Practitioner or Promotor or Proprietor

First Name_____ Surname_____

Middle name_____ NRC No._____

Age_____ Sex_____

1.1 Academic/Professional/technical training (if any) _____

_____

1.2 Contact Address_____

Tel/Mobile_____

Email (where applicable) _____

1.3 Next of Kin_____

Relationship with next of kin_____

Contact Details_____

Section B: 2.0. Location description

2.1 Village of origin_____

2.2 Name of Headman/Leader_____

2.3 Chief_____

2.4 Name of Chief_____

2.5 Constituency_____

2.6 District_____

2.7 Province_____

Section C: 3.0 Plant and cocktail information (if product is of plant origin)

3.1 Traditional name of the plant or herb (based on the village of origin)_____

_____

If not of plant origin, provide the name of the TCAM:_____

_____

3.2 Botanical Name (if known or applicable)_____

_____

3.3 Sample Code/Reference_____

3.4 Type: (a) Processed ☐ (b) Semi-processed ☐ (c) Unprocessed ☐

3.5 Form of use: (a) Liquid/syrup ☐ (b) Powder ☐ (c) Paste ☐

(d) Steaming/Bath ☐ (e) Chewable ☐ (f) Other ☐

Comment/Description of the product_____

_____

_____

3.6 Life form: Composition of preparation

Material	Bark	Leaves	Flower	Branch / twigs	Resin	Roots	Fruits	Oil	Other
Tree									
Shrub/bush									
Grass									
Fern									
Mosses									
Animal									
Insect									
Soil/Rock									
Other									

3.7. Record of Use

(A) How long has the product been in use (in months or years)?

_____

(B) How was knowledge of its use acquired?

i. Inherited from relation ☐ ii. Learnt from a friend or acquaintance ☐

iii. Read from Literature ☐ iv. Learnt from community practices ☐

v. From observation ☐ vi. Other (Explain) ☐

_____

(C) What is the prevalence of use

i. National wide ☐ ii. Local area only ☐ iii. Limited to the tribe ☐

iv. International ☐ v. Does not know ☐

(D) Known application

Known uses (disease/ailment)	Age categor	Known side effects	Known constituents	Collection locality	Harvesting seasonality

Add rows to the table above as needed depending on the number of diseases the medication is purported to heal or cure.

3.8 Has the proprietor been informed of the research/evaluation process involved?

Yes ☐ No ☐

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3.9 If yes, are they willing to sign the MoU and share additional information with a research team?

Yes ☐ No ☐

3.10 If No state reasons_____

_____

3.11 Has sample/specimen of the product been collected?

Yes ☐ No ☐

3.12 If Yes state Reference No._____

Information collected by_____

Position_____ID_____

Verified By (TCAM Practitioner/Promotor)_____

_____

Title_____ID_____

Date _____

Section D: 4.0 Final Recommendation by CTCAM

Recommended for evaluation (Attach a summary narrative report of the **CTCAM signed by Chair and Secretary**)

Yes ☐ No ☐

Appendix 2: District Level Screening and Documentation Tool

(To be completed by the DTCAM Focal Point Person)

District level evaluation tool

A. Identification Details

Name of District_____Province_____

Sample Code/reference_____

6

Was sample accompanied by report Yes ☐ No ☐

If Yes attach copy of report and if No state the reasons_____

_____

Has sample been accompanied by any other written documentation?

Yes ☐ No ☐

If Yes categorize the information i. Proposal ☐ ii. Background information ☐

iii. Local knowledge ☐

B. Sample proprietary details (who originated the sample)

Name_____ Age_____ Sex: _____

Contact Details_____

C. Invention and innovation Profile

i. Is there known information about the preparation?

Yes ☐ No ☐

If Yes, cite it_____

If No, How was its safe use suggested?

a. By Traditional Leaders ☐ b. By Community members ☐

c. By practitioners ☐ d. By users ☐

ii. Can record of use be traced/referenced Yes ☐ No ☐

If Yes, cite Reference/record of use_____

iii. How do you describe the cocktail?

(a) Known preparation ☐ (b) Relic/rare preparation ☐

(c) Popular preparation ☐ (e) Unknown preparation ☐

iv. How do you describe the composition of the sample?

Single plant ☐ Mixture of plants ☐

Other (Describe):_____

Section D. Final Recommendation by DTCAM

Recommended for evaluation (Attach a summary narrative report of the **DTCAM signed by Chair and Secretary**)

Yes ☐ No ☐

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