ETHICAL GUIDELINES FOR BIOMEDICAL RESEARCH INVOLVING HUMAN SUBJECTS

Draft: July 2003

INFORMATION NOTE

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PURPOSE OF THE GUIDELINES

With an increase in research activities within universities, as well as public and private organisations, it is important to ensure that high standards are maintained. Although general guidelines are adequate in terms of providing an outline of the required standards, specific guidelines are needed to address in more detail the various aspects of experimental research involving the use of human subjects.

Recognising the urgent need for institutions involved in biomedical research to have appropriate, satisfactory and recently reviewed guidelines, the Mauritius Research Council (MRC) has initiated work on the preparation of a set of guidelines named *Ethical guidelines for biomedical research involving human subjects*.

The Council is of the view that scientific practice in Mauritius should be in accord with international guidelines as far as possible. The guidelines being proposed have been adapted from the *Council for International Organisations of Medical Sciences (International Ethical Guidelines for Biomedical Research involving Human Subjects, 2002)* and are consistent with the principles originating from the *World Medical Association Declaration of Helsinki (Ethical Principles for Medical Research Involving Human Subjects 1964, updated 2002),* and are offered as a source of information to ensure that a proper research framework can be adopted by various institutions engaging in biomedical research. Existing international guidance on biomedical research provides adequate safeguards and the Council takes the view that instead of producing new guidance, it would be more appropriate to increase awareness of the existing guidelines, discuss the implications of applying them in Mauritius and consider measures to strengthen capacity for their implementation.

The objective of these guidelines is also to establish a greater degree of scientific efficacy and procedural responsibility in the practice of ethics committees, especially those that are responsible for considering research proposals involving participation of human subjects. The document is intended as a basis upon which such ethics committees can develop their own specific written procedures for their functions within biomedical research. In this context, this document establishes minimum guidelines and recommendations for Human Ethics Committees (HECs) to use in defining or revising

standard operating procedures. Elements have also been drawn from the ethical guidelines currently applied in Australia, Canada, India, South Africa and New Zealand.

It is hoped that this document will be of help both in understanding the policies and principles that underlie internationally recognised regulations governing research with human subjects, and in identifying issues to which one should be sensitive in designing or reviewing research proposals.

BASIS OF THE GUIDELINES

The drafting of the 'Ethical guidelines for biomedical research involving human subjects' emanates from an initiative of the MRC to address the current lack of national ethical guidelines for the conduct of research, and is in line with issues discussed by the Steering Committee on Biomedical Research, which was set up to implement some of the recommendations proposed earlier by the MRC Thematic Working Group on Biomedical Research. This Steering Committee is composed of representatives of the Central Health Laboratory, Virology Laboratory, Nutrition Unit (Ministry of Health and Quality of Life), SSR Centre for Medical Studies and Research, Faculty of Science, University of Mauritius, Mauritius Office of the World Health Organisation, Mauritius Institute of Health and private practice.

Discussions of the Steering Committee have centred on (i) reviewing the current status of medical research, and (ii) identifying priority fields where immediate and long term actions are required. Several areas have already been identified, with particular emphasis on the need to:

- strengthen the policy framework, infrastructure and human capacity of institutions involved in biomedical research,
- develop strategies for long term data collection/surveillance of diseases prevalent in the country,
- develop strategies for applied research focused on the priority areas of national health (diabetes, cardiovascular disease, cancer),

- set up a National Medical Research Ethics Committee to protect the patient and provide the proper ethical framework for defined conditions of clinical trials, and
- set up a Drug Regulatory System together with a Quality Assurance programme, to control the quality of generic drugs entering the market.

INTENDED AUDIENCE

This document is addressed to researchers and institutional administrators, including those who may already be engaged in providing ethical clearance of research proposals. The issues raised in the guidelines can serve as a starting point for all those concerned with HECs. In addition to the text dealing with specific topics, references are included to provide readers with a wide range of perspectives to assist them in their understanding of the many complex issues presented by biomedical research involving human subjects.

EXPECTED OUTCOME

The first draft of the *Ethical Guidelines for Biomedical Research Involving Human Subjects* will be circulated by the MRC to all stakeholders for consultation. The aim is to improve the proposals made and produce a finalised document that can address the current requirements of local institutions and set the standard for future work, while retaining sufficient flexibility to allow adaptation as new technology emerges.

It is expected that in the future, the MRC will only support biomedical research work involving human subjects on the basis that researchers comply with the legal provisions and any related codes of conduct and ethical guidance.

Note

This document is designed to act as a guide for the assistance of Human Ethics Committee members, researchers and research participants. Although the document reflects as much as possible the current status in ethical aspects of biomedical research involving human subjects, readers should bear in mind that due to the complexity and constantly evolving nature of the issues considered, the Mauritius Research Council does not guarantee that the information presented is in every respect complete. Readers are therefore encouraged to consult the latest available international guidelines in relation to the relevant facts.

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Background and historical context

INTRODUCTION

Advances in biomedical science and technology, and their application in the practice of medicine, are provoking some anxiety among the public and confronting society with new ethical problems. Investigation begins with the construction of hypotheses, which are then tested in laboratories and on experimental animals. For the findings to be clinically useful, experiments must also be performed on human subjects. Even though carefully designed, such research entails an element of risk to the subjects. This risk is justified, by its benefit to the human subjects involved and its potential contribution to the relief of suffering or to the prolongation of life, and not for any personal benefit to the researcher or the research institution.

DEVELOPMENT OF ETHICAL GUIDELINES

Following the atrocities that took place during the 2nd World War, where experiments were conducted on human subjects without their consent, the Nuremberg Code was formulated in 1947. The Code laid down the standards for carrying out human experimentation, with emphasis on the subjects' consent.

In 1964, the World Medical Association (WMA) took an important step to reassure society by adopting the Declaration of Helsinki (last revised in 2002), which lays down ethical guidelines for research involving human subjects.

In 1982, due to special circumstances of developing countries with regard to the applicability of the Nuremberg Code and the Declaration of Helsinki, the World Health Organisation (WHO) together with the Council for International Organisations of Medical Sciences (CIOMS) issued the 'Proposed International Guidelines for Biomedical Research involving Human Subjects'. The purpose of these Guidelines was to indicate how the ethical principles that should guide the conduct of biomedical research involving human subjects could be effectively applied, particularly in developing countries, given their socio-economic circumstances, laws and regulations, as well as executive and administrative arrangements.

The proposed guidelines were widely adopted throughout the world, providing valuable ethical guidance to biomedical research involving human subjects. In a subsequent survey, respondents indicated that the guidelines should be reviewed with particular reference to the ethical issues raised by large-scale trials of vaccines and drugs, trans-national research, and experimentation involving vulnerable population groups. A particular indication for their revision related to field trials of vaccines and drugs to control AIDS. Moreover, in recent years, many people, both in developed and developing countries, have begun to accept the beneficial of research involving human subjects. Indeed such research, particularly related to innovative therapy trials, is now actively sought by potential beneficiaries. For some, participation in research is the only way they can gain access to valuable new treatment or even general medical care. For others, it is the means by which scientists will discover new knowledge that may lead to the prevention or treatment, or even elimination of certain categories of disease and disability.

In this context, CIOMS undertook (in collaboration with WHO) a revision of the guidelines, setting up a Steering Committee to guide the process. The Steering Committee decided that special attention should be paid to epidemiological studies, and to the need for international guidelines for ethical review of such studies. It was determined that this would be best met by a separate publication, and resulted in the issue of *International Guidelines for Ethical Review of Epidemiological Studies*, in 1991.

After extensive consultation, a first draft of the revised guidelines was presented at the CIOMS Conference on Ethics and Research on Human Subjects — International Guidelines, held in Geneva, February 1992. The draft was examined and discussed by participants from both developed and developing countries, including representatives of ministries of health, representatives of medical and other health-related disciplines, health policy-makers, ethicists, philosophers and lawyers.

Following further consultation and revision, a final text was produced and subsequently endorsed in 1993 by the WHO Global Advisory Committee on Health Research and the Executive Committee of CIOMS. These bodies also recommended publication and wide distribution of this document, known as the *International Ethical Guidelines for Biomedical Research Involving Human Subjects*.

The latest version of the CIOMS document (August 2002), which is based around a core of 21 guidelines, reflects the overriding ethical concern for vigilance in protecting the rights and welfare of research subjects and of vulnerable individuals or groups, being considered as prospective subjects. Like the original (1982) guidelines, the revised guidelines are designed to be of use, particularly to developing countries, in defining national policies on the ethics of biomedical research, applying ethical standards in local circumstances, and establishing or redefining adequate mechanisms for ethical review of research involving human subjects.

Certain areas of research are not considered in detail in the CIOMS guidelines – they include human genetic research, embryo and foetal research, and foetal tissue research. These represent research areas in rapid evolution, and in various respects still controversial. CIOMS considered that since there is currently no universal agreement on all the ethical issues raised by these research areas, it would be premature to try and cover them in the guidelines.

Although CIOMS recognises that simply formulating ethical guidelines for biomedical research involving human subjects does not resolve all the issues that can arise in association with such research, it expects that the guidelines will focus the attention of investigators, sponsors and ethical review committees on the increasing need to consider the ethical implications of research protocols and the conduct of research.

International Guidance for the Conduct of Research Related to Healthcare

Source: Nuffield Council on Bioethics (2002). The ethics of research related to healthcare in developing countries.

Year	Organisation	Title
1947	War crimes tribunal at Nuremberg	Nuremberg Code
1948	United Nations General Assembly	Universal Declaration of Human Rights
1964	World Medical Association (WMA)	Declaration of Helsinki*
1991	CIOMS/WHO	International Guidelines for Ethical Review of Epidemiological Studies
1993	CIOMS/WHO	International Ethical Guidelines for Biomedical Research involving Human Subjects (Under revision in 2001-2)
1995	WHO	Guidelines for Good Clinical Practice for Trials on Pharmaceutical Products
1996	International Conference on Harmonisation (ICH)	Harmonised Tripartite Guideline. Guideline for Good Clinical Practice
1997	Council of Europe	Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine
1997	UNESCO	Universal Declaration on the Human Genome and Human Rights
2000	European Union	Charter of Fundamental Rights of the European Union
2000	UNAIDS	Ethical Considerations in HIV Preventive Vaccine Research
2000	WHO	Operational Guidelines for Ethics Committees that Review Biomedical Research
2001	European Parliament and Council of the European Union	Directive 2001/20/EC on the approximation of the laws, regulations and administrative provisions of the Member States relating to the implementation of good clinical practice in the conduct of clinical trials on medicinal products for human use.

**** Revised in 1975, 1983, 1989, 1996, 2000 and 2002.***

General ethical principles

All research involving human subjects should be conducted in accordance with three basic ethical principles, namely respect for persons, beneficence and justice.

Respect for persons addresses two deep-seated ethical concerns:

(a) the respect for autonomy, which maintains that those capable of taking decisions regarding their personal choices should be treated with respect for their ability for self-determination; and

(b) the protection of persons with compromised autonomy, which requires that those who are dependent or vulnerable be safeguarded against potential harm or abuse.

Beneficence refers to the ethical obligation to ensure that there is a maximum of benefit and a minimum of risk associated with the research. This principle sets out requirements that the risks of research be carefully balanced against the expected benefits, that the research design be scientifically valid, and that the investigators be competent both to undertake the research and to preserve the welfare of the research subjects. Importantly, beneficence prohibits the deliberate infliction of harm on persons – this aspect of beneficence is sometimes described as a separate principle, that of **non-maleficience**.

Justice refers to the ethical obligation to deal with each person in accordance with what is morally correct, and to give each person due recognition. In the present document, this refers primarily to **distributive justice** – the even-handed distribution of both the burdens and the benefits of participation in research. Deviation from distributive justice is acceptable only if there is a case for real distinction between persons. An example is the distinction made on account of the vulnerability of a person. Vulnerability refers to a significant inability to ensure protection of one's own interests, due to being unable to give informed consent, the absence of alternative access to medical care, or being a junior or subordinate member of a hierarchical group. In these situations, alternative arrangements must be envisaged to ensure that vulnerable participants remain protected.

It is generally agreed that neither of these principles is given preference over the others, and that they should form part of the base elements in building up research proposals. However, there may be special circumstances where these principles are expressed differently and given different moral weight, and it belongs to Human Ethics Committees to decide whether such differences in interpretation and application are warranted. In proposing the present guidelines, the MRC has attempted as much as possible to emphasise the application of these principles as a common theme underlying biomedical research involving human subjects.

Ethics and research[1]

DEFINING BIOMEDICAL RESEARCH

The term 'research' refers to a class of activities designed to develop or contribute to the generalisation of knowledge. General knowledge consists of theories, principles or relationships, or the accumulation of information on which they are based, that can be supported by accepted scientific methods of observation and inference. In the present context 'research' includes both medical and behavioural studies pertaining to human health. Usually 'research' is modified by the adjective 'biomedical' to indicate when reference is made to health-related research.

Progress in medical care and disease prevention depends upon an understanding of physiological and pathological processes or epidemiological findings, and requires at some time research involving human subjects. The collection, analysis and interpretation of information obtained from research involving human beings contribute significantly to the improvement of human health. New vaccines and medicinal drugs, before being approved for general use, must be tested on human subjects in clinical trials – such trials in fact constitute a substantial part of all research involving human subjects.

Research involving human subjects includes:

- studies of a physiological, biochemical or pathological process, or of the response to a specific intervention (whether physical, chemical or psychological) in healthy subjects or patients,

- controlled trials of diagnostic, preventive or therapeutic measures in larger groups of persons, designed to demonstrate a specific general response to these measures against a background of individual biological variation,

[1] For detailed information on ethics and research, please refer to the following documents:

(i) International Ethical Guidelines for Biomedical Research involving Human Subjects, Council for International Organisations of Medical Sciences (CIOMS) in collaboration with the World Health Organisation (WHO), Geneva, 2002.

(ii) Ethical Guidelines for Biomedical Research on Human Subjects, Indian Council of Medical Research, New Delhi, 2000.

(iii) National Statement on Ethical Conduct in Research involving Human Subjects, National Health and Medical Research Council, Commonwealth of Australia, 1999.

- studies designed to determine the consequences for individuals and communities of specific preventive or therapeutic measures, and

- studies concerning human health-related behaviour in a variety of circumstances and environments.

Research involving human subjects includes that undertaken together with patient care (clinical research) and that undertaken on patients or other subjects, or with data pertaining to them, solely to contribute to generalised knowledge (non-clinical biomedical research). Research is defined as 'clinical' if one or more of its components is designed to be diagnostic, prophylactic or therapeutic for the individual subject of the research. Invariably, in clinical research, there are also components designed not to be diagnostic, prophylactic or therapeutic for the subject; examples include the administration of placebos and the performance of laboratory tests in addition to those required to serve the purposes of medical care. Hence the term 'clinical research' is used here rather than 'therapeutic research'.

Research involving human subjects may employ either observation or physical, chemical or psychological intervention. It may also either generate records or make use of existing records containing biomedical or other information about individuals who may or may not be identifiable from the records or information. The use of such records and the protection of the confidentiality of data obtained from those records are discussed in *International Guidelines for Ethical Review of Epidemiological Studies* (CIOMS, 2002).

Research involving human subjects also includes research in which environmental factors are manipulated in a way that could affect incidentally exposed individuals. Research is defined in broad terms in order to embrace field studies of pathogenic organisms and toxic chemicals under investigation for health-related purposes.

Research involving human subjects is to be distinguished from the practice of medicine, public health and other forms of health care, which is designed to contribute directly to the health of individuals or communities. Prospective subjects may find it confusing when research and practice are to be conducted simultaneously, as when research is designed to obtain new information about the efficacy of a drug or other therapeutic, diagnostic or preventive modality.

Research involving human subjects should be carried out only by, or strictly supervised by, suitably qualified and experienced investigators and in accordance with a protocol that clearly states:

- the aim of the research,
- the reasons for proposing that it involves human subjects,
- the nature and degree of any known risks to the subjects,
- the sources from which it is proposed to recruit subjects, and
- the means proposed for ensuring that subjects' consent will be adequately informed and voluntary.

The protocol should be scientifically and ethically appraised by one or more suitably constituted review bodies, independent of the investigators.

THE LINK BETWEEN ETHICS AND RESEARCH

Among the essential values for research is that of the integrity of researchers. This includes the commitment to research questions that are designed to contribute to knowledge, a commitment to the pursuit and protection of truth, a commitment to reliance on research methods appropriate to the discipline, and honesty.

Ethics and science in research

Ethical considerations are as significant to good research as are scientific considerations. Projects without scientific merit are wasteful of resources and needlessly subject participants to risks. Accordingly, an essential condition of the ethical acceptability of research is the determination that the scientific quality of a proposal and the skill and experience of the researchers are such that the objectives of the proposal can reasonably be expected to be achieved.

Ethics and law in research

Research involving human participation is subject to a variety of legal regulations (both at national and international level). Laws regulate registration, the use of, and certain research on pharmaceutical drugs and medical devices, the protection of privacy and intellectual property. Laws can also regulate access to and use of health information held by authorities, consumer protection and professional conduct.

Researchers need to conform to relevant legal requirements and Human Ethics Committees (HECs) need to be satisfied that the conduct of research that they approve is lawful. In the event that both a legal requirement and an ethical guideline apply, the legal requirement will prevail (although they will normally be consistent). Ethical guidelines have the objective of defining standards of behaviour to which researchers should adhere. Where the guidelines prescribe a standard that exceeds that required by the law, then researchers should apply this higher standard.

Statement of general principles

Any research using humans as subjects of biomedical or scientific research should bear in mind the following principles:[2]

1. Essentiality of the research

The decision to conduct research using human subjects is made only after complete analysis of existing knowledge in the proposed area of research by a suitable team of persons, who are themselves not involved in the research. This is based on the conclusion that the involvement of human subjects is essential to the contribution of new knowledge and for the benefit of humans.

2. Informed consent, voluntary agreement and community approval

All research subjects should be made fully aware of the risks involved in the research in which they are taking part so that they can understand the physical, psychological and moral implications of the research, either to themselves or others, including those yet to be born. It is also essential that they maintain their right of declining participation at the beginning or at any point in time during the study, irrespective of any legal or other obligation.

For a community or group of subjects, the principles of voluntary agreement and informed consent shall apply to the community as a whole and to each individual subject. For those subjects who are unable to give their own consent, agreement should be sought from their legally responsible guardian.

The principles governing informed consent are vital throughout the period of research and afterwards, such that subjects are kept informed of any development that may concern them. The nature and form of consent required may vary depending on the invasiveness of the research and the potential impact on the subject's privacy and general well being.

[2] These principles are based upon those set out by the Indian Council of Medical Research in its document 'Ethical Guidelines for Biomedical Research on Human Subjects', 2000.

Informed consent is especially important when biomedical research involves:

- children and young people,
- persons with intellectual or mental impairment,
- persons highly dependent on medical care, including those in:
  - emergency care,
  - intensive care,
  - neo-natal care,
  - terminal care,
  - with impaired capacity for communication,
  - clinically unconscious states, and
- persons in dependent or unequal relationships.

3. Non-exploitation

Research subjects are remunerated for their participation in research. The selection of human subjects should be based on criteria in a most arbitrary manner and has to ensure that benefits of the research are distributed equitably and that conduct of the research does not discriminate against any person or group of persons, irrespective of colour, race, religion or belief, whether it concerns matters of remuneration or keeping them informed of all risks associated with the research which might affect themselves, unborn children or any other persons related to them.

4. Privacy and confidentiality

The identity and records of participants are to be kept confidential. Disclosure of data that are likely to reveal the identity of a participant should be allowed only when there are valid scientific and legal reasons for doing so, and only after specific written consent has been received from the concerned participant. Researchers should also ensure that such disclosure would not result in any subsequent discrimination to a person as a result of having participated in the study.

5. Precaution and risk minimisation

This principle addresses the need to ensure that steps are taken at several phases of the research (from research concept to its design, proposal and conduct) towards ensuring that subjects are exposed to a minimum of risks, and suffer no irreversible adverse effects as a result of participation in the research. Care should be taken that professional and ethical reviews of the research are carried out at critical milestones and that specific guidelines are formulated where necessary to ensure proper conduct of the experiment or research.

6. Professional competence

Research should be carried out by individuals who are competent and suitably qualified and who are conversant with the relevant ethical considerations.

7. Accountability and transparency

The research should be conducted in a fair, impartial and transparent manner. Complete records of data obtained during the research should be available at any time during the research period and must be retained for a reasonable period after completion of the research, for post research monitoring or for legal and administrative needs. Researchers should indicate their specific interests on the research and disclose any conflicts of interest which may be present or are likely to occur during the period of research.

8. Maximisation of the public interest and distributive justice

The outcome of the research and its applications should benefit all individuals in society, especially those who have participated in the research.

9. Institutional agreements

All persons involved in research should ensure that procedures and institutional arrangements necessary for the research and its subsequent use or application are made in a transparent manner.

10. Public domain

It is expected that research findings shall be disseminated through scientific and other publications, seminars, and conferences.

11. Total responsibility

This principle states that all those concerned with research, including researchers, those responsible for funding, institutions where the research will be conducted, persons/groups that derive benefit from the research, and those responsible for prescribing or marketing the product, are expected to assume professional and moral responsibilities for compliance to general and specific research guidelines. The aim is to ensure that research is carefully monitored and that action can be taken at any stage of the study.

ETHICAL GUIDELINES FOR BIOMEDICAL RESEARCH

1. ETHICAL GUIDELINES

The ethical guidelines outlined here are derived from the CIOMS *International ethical guidelines for biomedical research involving human subjects*, and are intended for further discussion in order to determine the essential elements that would be required in formulating a national statement on the ethical conduct of biomedical research. For a full description of the guidelines and accompanying explanations, readers are directed to the CIOMS website at www.cioms.ch/frame_guidelines_nov_2002.htm.

While the importance of observing the CIOMS guidelines (and other relevant codes) is recognised with respect to the basic principles that apply to biomedical research, irrespective of where such research is being carried out, certain components of the guidelines may need to be modified to take into account conditions which prevail locally. It is therefore hoped that future discussion will be conducted viewing the CIOMS and other guidelines, not as rules to be applied rigidly, but as principles which call for interpretation and the exercise of judgement.

The CIOMS guidelines can be grouped into six major areas, namely:

- Informed consent process;
- Selection of research subjects;
- Confidentiality of data;
- Compensation of participants;
- Review procedures; and
- Externally sponsored research

For each area, the CIOMS guideline number and title are provided for quick reference.

Informed consent process

Guideline 4: Individual informed consent.

Guideline 5: Obtaining informed consent – essential information for prospective research subjects.

Guideline 6: Obtaining informed consent – obligations of sponsors and investigators.

Guideline 8: Benefits and risks of study participation.

Guideline 9: Special limitation on risk when research involves individuals who are not capable of giving informed consent.

Guideline 15: Research involving individuals who by reason of mental or behavioural disorders are not capable of giving adequately informed consent.

The consent of participants must be obtained before the research begins. Informed consent has both ethical and legal requirements, which are related to the information that is provided to prospective participants and their ability to make a voluntary choice. When an individual is not able to take a decision by himself/herself, a responsible representative with legal authority for that participant can do so (this applies especially for research involving children, vulnerable persons, persons with an intellectual or mental impairment, persons highly dependent on medical care).

Obtaining informed consent can only be made after prospective participants have been provided information in a manner that is clearly understood by them, on the purpose of the research, the methods involved, the demands that will be placed on the participants, the potential risks, the reasonably expected benefits, and the possible outcome. Consent should not be obtained by coercion, or be subject to any influence or inducement likely to affect the voluntary nature of participation. The right to refuse to participate and/or to withdraw from participation at any time during the research is considered fundamental to each individual, who should be made aware of this.

Note must be made of special circumstances where it is ethically acceptable to carry out specific forms of research, without consent of the participants – examples of these being observational research in public places, use of anonymous surveys, the use of de-identified data in epidemiological research.

Selection of research subjects

Guideline 13: Research involving vulnerable persons.

Guideline 14: Research involving children.

Guideline 11: Choice of control in clinical trials.

Guideline 12: Equitable distribution of burdens and benefits in the selection of groups of subjects in research.

Guideline 16: Women as research participants.

Guideline 17: Pregnant women as research participants.

Research subjects must be selected in a manner that ensures a fair distribution of both the burdens and benefits of the research. For instance in clinical research, where care is combined with a study aimed at developing new knowledge, the expected benefits need to be balanced against the potential risks to the participants. Where non-clinical research is involved, potential risks to participants must be kept to a minimum especially if the outcome is not expected to produce immediate benefits.

Care must be exercised while research is being designed to avoid emphasis on particular subject groups (for various reasons, including administrative ease), and should as much as possible not be seen to result from bias caused by the economic situation, gender, or ethnicity of the subject, unless there are valid scientific reasons for doing so.

Special consideration needs to be given when research is to involve vulnerable persons, children, young people, pregnant or nursing women, or persons highly dependent on medical care, and steps must be in place to ensure that the welfare of such participants is protected. It is important to establish whether research involving these groups is indispensable, and that appropriate results cannot be obtained by similar research on other individuals. As noted earlier under 'Informed Consent Process', refusal to participate (either directly or by a legally responsible representative) must be respected.

Confidentiality of data

Guideline 18: Safeguarding confidentiality.

Confidentiality addresses the ethical and legal obligations that surround the transfer of personal information from one individual to another. The person receiving this information has a duty to restrict its use only for the intended purpose for which it was provided. Privacy is a wider concept of confidentiality and in biomedical research, addresses the balance between sharing information in the public domain (through reports, publications, conferences, access by other researchers, etc) and protecting the anonymity of the participants.

The confidential aspects of research data must be secured to prevent unauthorised access and identification of individual participants. Researchers and the institutions involved in research should also maintain the secure storage of data in a manner that facilitates the conduct of any follow-up studies which may need to be carried out. Whenever possible, details regarding the expected use of research data should form part of the information provided to prospective participants. While reviewing research proposals, HECs must ensure that appropriate steps have been taken to safeguard the privacy of individuals (for instance, by demonstrating that the research conforms with existing legislation or codes of conduct).

Compensation of participants

Guideline 7: Inducement to participate.
Guideline 19: Right of injured subjects to treatment and compensation.

It is considered appropriate to compensate participants for their inconvenience and time given towards their involvement in a study. Compensation may cover items such as travel costs and lost earnings, which can be reimbursed, or may be provided in the form of free medical services. However, care should be taken to ensure that compensation is not seen as 'undue inducement' likely to influence decisions related to the informed consent of a participant – this is especially important when research is sponsored by external organisations with commercial activities (for example, pharmaceutical companies). All matters regarding compensation should receive prior clearance from the HEC.

Although researchers have an ethical responsibility to minimise any harm to participants, adverse effects (either during the study, or after the study has formally ended) may still occur. Responsibility for compensation may be shared between the researchers and local health authorities, but when unexpected consequences arise it is sometimes unclear as to how the financial burden will be allocated.

A number of countries have clearly defined the responsibilities regarding compensation of participants, often emphasising that the 'right to compensation' cannot be waived under any circumstances. It is therefore advisable, before a study begins, to consider and clearly establish responsibilities between the researchers, sponsors, and local health authorities, and define the modes by which subjects will be compensated, should unforeseen adverse effects or injury occur as a result of their participation in the study.

Review procedures

Guideline 1: Ethical justification and scientific validity of biomedical research involving human beings.
Guideline 2: Ethical review committees.

The need for review procedures is now widely endorsed by the different international guidelines relating to biomedical research. All research proposals involving human subjects should be reviewed for their scientific value and ethical acceptability. Although it is not possible to dissociate entirely the science from the ethics in such proposals, it is advisable to undertake these reviews (which serve quite distinct purposes) separately, on the understanding that the ethical review be carried out taking into account the outcome of the scientific review. It is accepted that research should not begin or receive funding until the review process is completed and approval has been granted.

HECs are entrusted with reviewing the ethical aspects of research proposals – details on the operational guidelines for HECs are provided later in this document. HECs are expected to have adequate representation of people from different backgrounds, and should be capable of understanding the complex ethical issues that can arise in biomedical research proposals. It is therefore essential that arrangements be in place for HEC members to receive appropriate training and support, to ensure that HECs develop the necessary knowledge and skills for

conducting effective reviews. HECs should also take the responsibility for conducting ethical reviews at regular intervals during a study, to ensure continued compliance with the ethics of the approved protocol.

Externally sponsored research

Guideline 3: Ethical review of externally sponsored research.
Guideline 10: Research in populations and communities with limited resources.
Guideline 20: Strengthening capacity for ethical and scientific review and biomedical research.
Guideline 21: Ethical obligation of external sponsors to provide healthcare services.

For externally sponsored research, in addition to the scientific and ethical reviews there should also be an assessment of the relevance of the proposal to national healthcare priorities. Such assessment may include consideration of the potential benefits of the research findings, such as availability of a treatment demonstrated as being successful to the wider community. As much as possible, justification for research proposals that are not aligned with national healthcare priorities should be provided to the HECs.

When research is to be conducted in Mauritius by an external institution, it would be important to ensure that the research complies with the requirements laid out in these guidelines, as well as the guidelines and legislation of the external institution’s country. Consequently, it would be appropriate for such research proposals to be subject to independent ethical reviews both in the country of the sponsor and in the host country.

Issues regarding the appropriate standard of care should be carefully discussed, taking into account local standards, the standards available in the country of the sponsor and factors involved in providing a 'universal' standard of care. Externally sponsored research should also include provisions which contribute towards development of research expertise within the host country.

2. THE HUMAN ETHICS COMMITTEE

It is now generally accepted that:

- research investigations on human beings should conform with codes established by the World Medical Association (Declaration of Helsinki) and the World Health Organisation (WHO) and its associated bodies (CIOMS);

- investigators should not be the sole judges of whether the research does so conform.

In this context, the purpose of a Human Ethics Committee (HEC) is to safeguard the welfare and the rights of human subjects in biomedical research studies, taking into account the scientific procedure and the concerns of the local community.

HECs provide timely, comprehensive, and independent reviews of the ethics of proposed studies, acting in accordance with international standards for Good Clinical Practice (GCP).

HECs are also responsible for acting with due regard to the requirements of relevant authorities, applicable laws, and in good faith with respect to both applicants and the community.

3. PROCEDURE FOR CONSTITUTING A HUMAN ETHICS COMMITTEE

Human Ethics Committees (HECs) are to be constituted to ensure a competent review of all ethical aspects of the protocols they receive, and to ensure that their tasks can be executed free from bias and influence that could affect their objectivity. What follows provides a general guide as to how HECs are to be minimally constituted. Local laws, regulations, and guidelines may provide more specific guidelines, in which case they are to be incorporated into local practices.

HECs are to specify in writing the authority under which the committee is established, membership requirements, the terms of appointment, the conditions of appointment, the offices, and the quorum requirements.

A. MEMBERSHIP REQUIREMENTS

A procedure for making appointments includes the following, but is not limited to:

(i) The name or definition of the party or individual responsible for making appointments and their/its affiliations;

(ii) The procedure for selecting candidates;

(iii) A definition of the method for choosing a candidate (e.g., by consensus, by majority vote, by direct appointment).

B. ROLE OF THE HUMAN ETHICS COMMITTEE

(i) The HEC is the body responsible for the maintenance of ethical standards of practice in research;

(ii) The HEC protects subjects of research from harm, preserves the subjects' rights and provides reassurance to the public that this is being done;

(iii) The HEC should make sure that subjects have an opportunity to withdraw easily without penalty from a research investigation;

(iv) The HEC also protects research workers from unjustified criticism;

(v) The HEC should seek to facilitate good research and avoid impeding good medical research;

(vi) The HEC should reject an application on the grounds of low scientific quality only where it has been carefully satisfied that it has adequate knowledge and expert advice to justify this step.

The World Health Organisation (WHO) and the Council for International Organisations of Medical Sciences (CIOMS) advise that a HEC should consider the following:

- The objectives of research are directed to a justifiable advancement in biomedical knowledge that is in line with the prevailing community interests and priorities;

- The interventions are justifiable in terms of these objectives – that is, the required information cannot be obtained from animal models and the study has been designed with a view to obtaining this information from as few subjects as possible who will be exposed to a minimum of risk and inconvenience;

- The responsible investigator is appropriately qualified and experienced and commands facilities to ensure that all aspects of the work will be undertaken with due discretion and precaution to protect the safety of the subjects;

- Adequate preliminary literature research and experimental studies have been undertaken to define as far as practicable, the risks inherent in participation;

- Prospective subjects should be informed of the objectives and their involvement and particularly, of identifiable risks and inconvenience;

- Arrangements to delegate consent have adequate justification and appropriate safeguards should be instituted to make sure that the rights of the subjects are in no way abused; and

- Appropriate measures should be taken to make sure that all data generated during the progress of the research are kept confidential.

C. TERMS OF REFERENCE

A Human Ethics Committee should:

(i) Advise its appointing authority on all matters relating to the ethics of research involving human subjects;

(ii) Review proposals for research to be carried out in the institution of that authority;

(iii) Review proposals for research to be carried out by staff of the authority in other places where there is no ethics committee;

(iv) Not undertake a function that might conflict with the above, that is it should not act as a research funding or grant-giving committee; and

(v) Make an annual or more frequent report to the appointing authority, which should be made available to the public.

It is recommended that individuals or institutions having a vested interest in the conduct or outcome of proposed research, such as sponsors or investigators, should not appoint or be appointed to HECs.

D. TERMS OF APPOINTMENT

A statement of the terms of appointment should include the following, but should not be limited to:

(i) the duration of an appointment;

- Duration of membership should be prescribed (for example 3-5 years which may be renewed);

- It should be remembered that although the HEC should not stagnate, members need time to absorb the ethos and to develop the skills of ethical review and that it is also important not to lose a valuable and willing member simply because time has passed;

- This applies particularly to lay members who may not be easily replaced, as are professional members.

(ii) the policy for renewal of an appointment;

(iii) the disqualification procedure;

(iv) the resignation procedure; and

(v) the replacement procedure.

E. CONDITIONS OF APPOINTMENT

A statement of the conditions of appointment should include, but should not be limited to the following:

(i) A member must voluntarily withdraw from the HEC for the decision procedure concerning an application where there arises a conflict of interest; members of the HEC, as well as applicants, should declare any interest, for example where an application relates to their testing a product of a company to which the member is an advisor. The conflict of interest is to be indicated in writing to the chairperson prior to the review and recorded in the minutes. The chairperson will decide whether the interest disqualifies the member from the discussion. Where the chairman has an interest, a vice-chairperson should take his place.

(ii) A member must be willing to publicise her/his full name, profession, affiliation, age, and gender.

(iii) Confidentiality of HEC proceedings should be preserved because the issues considered are often complicated and delicate. Uninformed and unbalanced publicity could arouse emotions that are damaging to all concerned, especially to patients. Moreover some investigators who have had an original idea fear that this may be passed to others who are in competition with them. Members must sign a confidentiality agreement covering information regarding applications and subjects.

F. MEMBERSHIP OF THE COMMITTEE

- Committees must command the technical competence and judgement to attempt to reconcile the physical and psychological consequences of participation with both the welfare of the subjects and the objectives of the investigation;

- They may also, with advantage, accommodate respected lay opinion in a manner that provides representation of community as well as medical interests;

- Members of the community should be people of goodwill, with a high regard for the human personality, for truthfulness and for the continued advance of science in the interest of society;

- Those who are totally opposed to research investigations or experiments on humans should be left to attack the system from outside and should not be invited on to the committee;

- On the other hand, individuals who are acquiescent and may be thought to be likely to give automatic approval are also not suitable members;

- It is important that there be individuals who will look at applications critically from the subject's point of view;

- It is important that the community should have confidence in HECs. The membership to HECs should be broad and **NOT** exclusively medical, and the lay members should be persons of responsibility and standing who will not be overawed by medical members;

- Lay members are invaluable particularly on issues of consent and information to subjects. A lay member with legal training can be of great value but his/her role should be a general one, not only to answer questions of law;

- A legal member should not be the professional adviser to the appointing authority;

- It is **NOT** appropriate to use an unmodified hospital medical committee as a Human Ethics Committee.

G. OFFICERS

A statement is required of the officers within the HEC (chairperson, secretary, treasurer), of the requirements for holding each office, the terms and conditions of the office, and the duties and responsibilities of each office (agenda, minutes, sending notification of decisions, filing, archiving, etc).

A statement is required of all administrative support provided by persons who are not members of the HEC.

It is recommended that a HEC minimally appoint a chairperson and assure the availability of a secretary.

H. COMMITTEE REQUIREMENTS

HECs have to establish specific requirements for a quorum: the minimum number and composition of members required to participate in the review of and to decide on an application. Committee requirements include the following, but are not limited to:

(i) The establishment of a minimum number of HEC members required to compose a committee;

(ii) The establishment of a maximum number of HEC members allowed to participate in the review of and decision on an application;

(iii) The professional qualifications requirements (physician, lawyer, statistician, paramedical, layperson, etc) and the distribution of those requirements over the committee;

(iv) The gender distribution requirements for the committee; and

(v) The age distribution requirements for the committee.

I. COMPOSITION OF THE HUMAN ETHICS COMMITTEE

It is recommended that the Human Ethics Committee be constituted as follows:

(i) ***Medical Members*:** these will include both those occupied chiefly with clinical care and experienced clinical investigators; a general practitioner should be included whether or not the Committee reviews projects in general practice, since all research subjects are patients of a general practitioner. The physicians should share between them:

- *Experience* in biomedical research conducted according to GCP,
- *Independence* from the institution where the research is carried out, and should be currently practising;

(ii) ***Non-medical workers or scientists***: According to the types of research coming before the HEC these will include, for example, psychologist, social scientist, and social worker;

(iii) ***Paramedical***: At least one should be included, preferably someone in active practice with patients (nurse, paramedic, pharmacist);

(iv) ***Lay members***: At least two persons not practising or trained in any medical or paramedical discipline should sit on the HEC. At least one lay member should be independent of the institution served by the HEC;

(v) **Both sexes** should be represented on the HEC;

(vi) A wide age range, and the cultural make-up of the local community should be represented in the HEC;

(vii) The HEC should elect its **own chairperson** from among its members;

(viii) The HEC should be of manageable size, for example **a minimum of five and not more than twelve**. A busy HEC may find it useful to have alternates for some members to ensure a valid group is always available;

(ix) It is not practical for a HEC to include specialists in all fields, medical and allied, that have a scientific or other input to all the various proposals that may come before it. Alternatively, in other appropriate recurrent or occasional cases, specialist needs can be met by co-option (in areas of particular difficulty or sensitivity, e.g. research involving the foetus, neonates, breast cancer, pregnancy, it is useful to co-opt additional lay or professional advisers for an individual application or meeting) or by the formation of a sub-committee, with overlapping membership;

(x) It is recommended that the distribution of qualifications is to be respected over the whole of the membership of a HEC.

4. PROCEDURE FOR SUBMITTING AN APPLICATION

HECs are responsible for establishing well-defined submission procedures that are readily available to prospective applicants.

A. APPLICANT

An application for a review of the ethics of proposed biomedical research should be submitted by a co-ordinating or principal investigator[3] for the scientific and ethical aspects of the research.

B. APPLICATION PROCEDURE

HECs should have publicly available guidelines for the submission of an application for the review of the ethics of proposed biomedical research.

These guidelines must include the following:

(i) The name(s) and address (es) of the HEC member(s) to whom the application material is to be submitted;
(ii) The number of copies to be submitted;
(iii) The language(s) in which (core) documents are to be submitted;
(iv) The required application form(s);
(v) The required documentation;
(vi) The required format;
(vii) The deadlines for review dates;
(viii) The means by which applicants will be informed of incompleteness;
(ix) The fee structure for considering an application and the follow-up, when applicable.

[3] See glossary for the definition of 'Principal Investigator'

C. REQUIRED DOCUMENTATION

All documentation required for a thorough and complete review of the ethics of proposed research is to be submitted by the applicant. This should include the following:

(i) Application form(s) (when required by the HEC) (Please refer to Appendix 4 for the proposed format of the application form);

(ii) Protocol of the proposed research (clearly identified and dated), together with supporting documents and annexes;

(iii) A diagrammatic representation (flowchart) of the protocol;

(iv) An adequate summary of all pharmacological and toxicological data available on the drug, together with a summary of clinical experience with the drug to date (for example, recent investigator's brochure, a summary of the product's characteristics);

(v) Recent investigator(s)'s curriculum vitae (signed and dated);

(vi) Material used (including advertisements) for subject (patient/volunteer) recruitment;

(vii) Subject (patient/volunteer) information (in English and when required, in French or local language) (See Appendix 1: Questionnaire);

(viii) Consent form (in English and when required in French or local language);

(ix) Indemnity agreements for liability;

(x) Proof of regulatory compliance, when required (reference to the relevant Mauritian legislation);

(xi) Case report forms, diary cards, and other subject questionnaires;

(xii) All significant previous decisions (e.g., those leading to a negative decision of changed protocol) by other HECs for the proposed study (whether in the same location or elsewhere); and

(xiii) All rewards and compensations made to subjects.

HECs recommend the applicant to include a statement certifying that investigators and their families have no vested interest in the outcome of the study.

In cases where there is a potential conflict of interest, applicants should disclose the nature of the potential conflict and describe the steps taken to minimise a biased reporting of results (see Appendix 3).

It should be clear to the HEC if there are any ethical issues related to intellectual property rights (IPR), and if adherence to IPR imposes restrictions on information provided prior to the start of the study or at the end (such as, restrictions on the publication of research findings).

It is recommended that HECs do not require full disclosure of payments to investigators, nor that HECs uniformly require investigators to divest any financial interests they have in the sponsor's company or product.

D. REGISTRATION OF APPLICATIONS

HECs are required to follow a registration procedure for all incoming applications. This procedure should include:

(i) Dating all incoming material;
(ii) Filing all incoming material;
(iii) Checking for the formal completeness of an application;
(iv) Informing the applicant in the case of an incomplete application;
(v) Informing the applicant of the expected date of review of a complete application;
(vi) Informing all HEC members of the review date of an application; and
(vii) Maintaining a record of all communications regarding applications (whether written, verbal, or electronic).

5. REVIEW PROCEDURE

All properly submitted applications are to be reviewed in a timely fashion and according to an established review procedure.

A. MEETING AND WORKING PROCEDURES

HECs should meet in accordance with published meeting dates scheduled regularly. The established quorum requirements are to be met prior to the review of applications.

It is recommended that HECs meet every 4 weeks and never less than 6 times per year. Reasonably frequent meetings are essential to allow a HEC ethos to develop. To work entirely or almost entirely by mail or by the chairperson's decision, even if this decision is later put before a meeting, is unacceptable.

Meetings should follow a previously scheduled agenda, amended where appropriate.

Meetings should be minuted. There has to be an approval procedure for the minutes.

When appropriate, the applicant, sponsor, and/or investigator should be invited to present the protocol in the meeting. Some HECs do their work entirely at meetings, at which the applicant is present for discussion of their project, although the HEC may take the decision in private.

When appropriate, outside experts (for example, researchers with specific competencies, ethicists, statisticians) should be invited to assist the meeting.

When appropriate, representatives of special patient groups or interested groups (for example, in studies concerning pregnancy or AIDS) should be invited to assist the meeting.

B. ELEMENTS OF THE REVIEW

While reviewing applications, the HEC must take into account:

(i) The thoroughness and completeness of the information submitted and its ability to respond to ethical questions arising within the context of the study;

(ii) The suitability of the protocol and the data collection forms in relation to the objectives of the study (taking into account applicable rules and regulations), the statistical analysis, and the scientific efficiency – here, the potential for reaching sound conclusions with the smallest possible exposure of subjects, and the justification of predictable risks and inconveniences should be weighed against the anticipated benefits for the subjects and/or others;

(iii) The suitability of the investigator for the proposed study in relation to her/his qualifications, and experience;

(iv) The adequacy of the site, including the supporting staff, available facilities, and emergency procedures;

(v) The adequacy of medical supervision and follow-up concerning the subjects;

(vi) The adequacy of provisions made for monitoring and auditing the conduct of the research;

(vii) The adequacy, completeness, and clarity of written and oral information to be given to the subjects, their relatives, and, if necessary, legal guardians;

(viii) The means by which initial recruitment will be conducted, and by which full information is to be given;

(ix) The content and the wording of the informed consent form and, when applicable, the provisions made for subjects incapable of giving personal consent;

(x) Assurances that subjects will be informed of any information of relevance to them becoming available during the study;

(xi) The provisions made for receiving and responding to queries and complaints of subjects during the course of a study;

(xii) The provisions for compensation/treatment in the case of the injury/disability/death of a subject attributable to participation in the study;

(xiii) The insurance and indemnity agreements covering the liability of the investigator by the sponsor;

(xiv) Assurances that the subjects' doctors will be informed, where appropriate and with consent from the subject (patient/volunteer);

(xv) The measures taken to insure the confidentiality of personal subject information;

(xvi) The rewards and compensations for subjects.

6. DECISION-MAKING PROCEDURE

Decision by the HEC may only be taken when sufficient time has been made for review and discussion, following the withdrawal of all non-members of the HEC (that is, the principal investigator, independent advisor, sponsor representative, etc) from the meeting.

A HEC must assure that the documents are complete and that the elements mentioned above (section 4B) are considered before a decision is made.

A HEC should follow a pre-defined method for arriving at a decision. Decisions need to be arrived at through consensus. When a consensus appears unlikely, the chairperson should call for a vote, with a two-thirds majority required for decision. In the case of a conditional decision, the HEC should indicate revisions to be made to the research proposal and the procedure for having the application reviewed again.

In cases where a decision is taken without the full consent of all members of the HEC present, all dissenting members must be given an opportunity to append an opinion to the decision of the HEC.

A negative decision on an application should be supported by well defined reasons.

Chairperson's approval: The chairperson may deal with minor applications only, immediately by 'chairperson's action' with or without consultation with another member. In such cases, the relevant documents concerning the application and the decisions taken should be reported at the following HEC meeting.

Class approvals: Individual investigators or departments that conduct research which varies in detail but conforms to the same general pattern (for instance, projects in epidemiology or involving the training of students), may be given a 'class approval', to avoid repetitive submissions of projects differing only in detail. This is appropriate only for projects that pose no risk of distress or injury to subjects.

7. PROCEDURE FOR COMMUNICATING A DECISION

A decision should be communicated in writing to the applicant normally within two weeks following the HEC meeting at which the decision took place.

The decision must include the following:

(i) The exact title of the research proposal reviewed;

(ii) The identification number and/or date of the research proposal that the decision is based on;

(iii) The names and, where possible, specific identification numbers of the documents reviewed, including the participant information sheet and informed consent form;

(iv) The name and title of the applicant;

(v) The date and place of the decision;

(vi) The name of the HEC taking the decision;

(vii) The name of the chairperson of the HEC;

(viii) The names of the members participating in the decision;

(ix) A clear statement of the decision reached;

(x) Any advice, opinions, or requirements adjoined to the decision by the HEC;

(xi) Clearly defined reason(s) for additional requirements in the case of a conditional decision;

(xii) In the case of a positive decision, a statement of the responsibilities of the applicant, which should comprise:

- confirmation of the acceptance of any requirements imposed by the HEC;
- the need to notify the committee in cases of:
  - amendments to the research proposal likely to affect its decision;
  - serious or unexpected adverse events;
  - unforeseen circumstances;
- the need to inform the committee on:
  - termination of the study;
  - the outcome of the study;
  - any significant decisions by other HEC(s) to which the same proposal has been submitted;

(xiii) Clearly defined reason(s) in case of a negative decision by the HEC; and

(xiv) The signature (dated) of the chairperson of the HEC.

8. FOLLOW-UP PROCEDURE

HECs are responsible for establishing a review procedure for following the progress of all studies that have received a positive decision, from the time the research begins through to its termination.

The methods of communicating between the HEC and the applicant should be clearly specified.

HECs have the responsibility to indicate the committee requirements, the review procedure, and the communication procedure for follow-up reviews, which may vary from the requirements and procedures for the initial decision on an application.

A. FOLLOW-UP REVIEW INTERVALS

The follow-up review intervals are determined by the nature and the events of the studies. Each protocol should undergo a follow-up review at least once a year. Even if it were desirable, it is often not possible in practice for a HEC to monitor in detail the conduct of ongoing research, but committees should not lose contact with investigations that they have approved. Some form of follow-up is necessary, even if it is in the form of an annual questionnaire to applicants. This should establish whether the project has been completed, abandoned (the reason(s) should be given), or is still in progress in the original or other form. Information on any adverse events should be sought.

B. INSTANCES REQUIRING A FOLLOW-UP REVIEW

The following instances or events require the follow-up review of a study:

(i) Any amendment to the protocol likely to affect the safety of the subjects or the conduct of the study;

(ii) Serious and unexpected adverse events in human subjects and the response taken by regulatory agencies, investigators, and sponsors. It is important that applicants be reminded, through guidelines or forms, that any adverse event should be reported immediately to the HEC.

(iii) Any event or new information that may impact upon the benefit/risk ratio of the research.

The HEC is responsible for responding to all notifications of instances or events affecting the progress of an approved study. The decision of a follow-up review should be communicated to the applicant, indicating either a reversal of the original decision of the HEC or confirmation that the original decision remains valid. In the event of a serious accident to research subjects, the HEC should satisfy itself that a proper enquiry is conducted and consider the implications for the continuation of the study.

C. STUDY TERMINATION

The HEC requires notification from the applicant upon the completion of a study. It is recommended that HEC be given a copy of the final report of the completed study, including reprints of publications that arise from the research.

A HEC may decide to reverse its positive decision on a study if information emerges that adversely affects the benefit/risk ratio.

In the case of early termination of a study, notification must include the reasons for termination. A summary of any results obtained on a study prematurely terminated must be communicated to the HEC. Where no publication results, a summary should still be provided. The HEC should review these reports and may, if required, ask for a more detailed follow-up.

In the case of scientific fraud, the HEC may or may not be the appropriate body to investigate such allegations. Where it is not possible or inappropriate, the HEC should ensure that full information is passed on to a more appropriate body.

Where the study termination also involves publication of the research findings, authors should indicate that a HEC has approved the research. It is important that any proposed restrictions on publication and the reasons for these, should have been declared to the HEC at the time of submission of the research proposal.

9. DOCUMENTATION AND ARCHIVING PROCEDURE

All documentation and correspondence of a HEC need to be dated, filed, and archived according to written procedures. The procedure for access and retrieval of documents, files and archived material, even by authorised persons, should be clearly defined.

Documents to be filed and archived should include:

(i) The constitution, historical documents, and the Standard Operating Procedures (SOPs) of the HEC;

(ii) The curriculum vitae of all HEC members;

(iii) A record of all incomes and expenses of the HEC, including allowances and reimbursements made to HEC members;

(iv) The published guidelines for submission as established by the HEC;

(v) All materials submitted by an applicant;

(vi) All correspondence by HEC members with applicants or concerned parties regarding application, decision, and follow-up;

(vii) The agenda of all HEC meetings;

(viii) The minutes of all HEC meetings including:

- time, date, and place of meeting;
- members present;
- third parties present;
- points of discussion;
- decision record, indicating how the decision was reached;
- signature (dated) of the chairperson;

(ix) A copy of the decision and any advice sent to the applicant;

(x) All documentation and communication received or occurring during the follow-up;

(xi) Notification of the completion or premature termination of a study, and the summary or the reasons for early termination.

It is recommended that all archived material relating to the HEC be maintained for a minimum of 3 years.

GLOSSARY

The definitions provided below apply to terms as used in the present ethical guidelines. Please note that these terms may have different meanings in other contexts.

Adverse event	Any untoward or unfavourable occurrence experienced by a subject participating in a clinical trial.
Advice	Non-constraining suggestions or considerations adjoined to a decision intended to provide ethical assistance to those involved in the research.
Amendment	A written description of changes to a protocol.
Applicant	An investigator or a representative of the sponsor undertaking the scientific and ethical responsibility for a clinical trial, ideally a qualified physician or dentist, either on his/her own behalf or on behalf of an organisation/firm, seeking a decision from a human ethics committee through formal application.
Benefit	That which positively affects the interests or welfare of an individual or group.
Clinical trial	A systematic study of an investigational product or substance (usually medicinal) on human subjects (including patients and volunteers) intended to identify characteristics of efficacy and/or safety. This document makes use of the broader term 'biomedical research', which includes clinical trials.
Community	A community is a group of people understood as having a certain identity due to the sharing of common interests or to a shared proximity. A community may be identified as a group of people living in the same village, town or country and, thus, sharing geographical proximity. A community may be otherwise identified as a group of people sharing a common set of values, a common set of interests, or a common disease.
Competence	The ability of a person or a group to make choices in accord with their own fundamental values.
Confidentiality	The obligation of persons to whom private information has been given is not to use the information for any purpose other than that for which it was given.
Decision	The response (either positive or negative) by a HEC to an applicant following the review of the application, in which the position of the HEC on the ethical validity of the proposed study is stated.
Ethics	The study of morals and values, that is, the study of right and wrong, justice and injustice, virtue and vice, good and bad, and related concepts and principles.
Ethical; unethical	Right or morally acceptable; wrong or morally unacceptable.

Genetic material	Any source of DNA or RNA which can be tested to obtain genetic information. It includes cells, whether as single cells or as part of tissues, and extracted DNA and RNA.
Harm	That which adversely affects the interests or welfare of an individual or a group. The 'amount of harm' relates to an ethically acceptable addition to harm that the research participant would experience were they not part of the research study; , conservatively estimated which is, from the research participant's perspective, Harm extends to physical harm, discomfort, anxiety, pain, psychological disturbance and includes social disadvantage (for example, ostracism as a result of participation in a study).
Human Ethics Committee (HEC)	An independent body, for example, an Institutional Review Board (IRB), or a Regional or National Committee, constituted of medical professionals and non-medical members, whose responsibility it is to safeguard the welfare and the rights of subjects participating in biomedical research, taking into account the scientific procedures and the concerns of the local community.
Human tissue	Includes the substance, structure and texture of which the human body or any part of it is composed, that is removed or separated from the living body; includes blood, blood components and waste products.
Informed consent	For all biomedical research involving human subjects, the investigator must obtain the informed consent of the prospective subject or in case of an individual who is not capable of giving informed consent, the consent of a legal guardian. Informed consent is based on the principle that competent individuals are entitled to choose freely whether to participate in research or not. Informed consent protects the individual's freedom of choice and respect for autonomy.
Opinion	Ethical considerations adjoined to a decision that represent the views of an individual member or a group of members of the ethics committee. In most cases an opinion is used to express dissent on the whole or part of the decision. Opinions are non-constraining elements of a decision, intended to express specific ethical concerns that those involved in the research should consider.
Principal investigator	A Principal Investigator may be appointed as the responsible leader of a team of sub-investigators. Ideally, this team should include a legally qualified physician, dentist or pharmacist, who undertakes scientific and ethical responsibility, either on his/her own behalf or on behalf of an organisation/firm, for the research carried out at a specific site (or group of sites in the case of a multi-centre study).
Protocol	A document that provides the background, rationale, and objective(s) of a research proposal and describes its design, methodology and organisation, including statistical considerations.
Protocol amendment	A written description of a change to, or formal clarification of, a protocol.

Requirements	In the context of decisions, requirements are constraining elements that express ethical considerations which the HEC requires or views as necessary in pursuing the research.
Serious adverse effect	Any untoward medical occurrence that at any dose**:** - results in death; - is life-threatening; - requires in-patient hospitalisation or prolongation of existing hospitalisation; - results in persistent or significant disability/incapacity; or - leads to a congenital anomaly/birth defect.
Sponsor	An individual or organisation/firm that takes on the scientific and ethical responsibility for the initiation, management, and/or financing of a study.
Subject	An individual who participates in biomedical research, either as the direct recipient of a pharmaceutical product, medicinal substance, or invasive procedure, or as a control. The individual may be a healthy person who volunteers to participate in the research, or a person with a condition unrelated to the research carried out who volunteers to participate, or a person (usually a patient) whose condition is relevant to the use of the investigational product and agrees to participate.

ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome
CIOMS	Council for International Organisations of Medical Sciences
CTC	Clinical Trial Certificate
CTX	Clinical Trial Exemption
GCP	Good Clinical Practice
HEC	Human Ethics Committee
MIH	Mauritius Institute of Health
MOHQL	Ministry of Health and Quality of Life (Mauritius)
MRC	Mauritius Research Council
SOP	Standard Operating Procedure
WHO	World Health Organisation
WMA	World Medical Association

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World Health Organisation (WHO). "Guidelines for Good Clinical Practice (GCP) for Trials on Pharmaceutical Products." Annex 3 of The Use of Essential Drugs. Sixth Report of the WHO Expert Committee. Geneva: World Health Organisation, 1995: 97-137.

WEBSITES PROVIDING UPDATED INFORMATION

The Association of Research Ethics Committees (AREC)
www.arec.net

Bulletin of Medical Ethics
www.bullmedeth.info

Canadian Institutes of Health Research
www.cihr-irsc.gc.ca/about_cihr/organization/ethics/index_e.shtml

Centre of Medical Law and Ethics
www.kcl.ac.uk/depsta/law/research/cmle/

Ethics Research Information Catalogue (ERIC)
www.eric-on-line.co.uk

Health Research Council of New Zealand
www.hrc.govt.nz/ethicgui.htm

Journal of Medical Ethics
http://jme.bmjjournals.com

Indian Council of Medical Research
http://icmr.nic.in

Medical Research Council of the UK
www.mrc.ac.uk

National Health and Medical Research Council
www.health.gov.au/nhmrc

Nuffield Council on Bioethics
www.nuffieldbioethics.org/home/

Royal College of Physicians of London (RCP)
www.rcplondon.ac.uk

APPENDIX 1

Notes for preparing the Information Sheet

An Information Sheet should be available for participants to take away and keep. Information for participants, whether written or verbal, should be provided in a clear and simple language. It may be necessary to provide the information in a language other than English. Please note that Information Sheets and Consent Forms should not be given to potential participants at the same time. The Information Sheet should be prepared on the Institution's letterhead paper.

1. The researcher should introduce him/herself, set out clearly the reasons for doing the research and, where appropriate, provide the name(s) of the research supervisor(s). Any other roles held by the researcher which may be important for participants to know should be clearly stated;

2. The Institution's telephone numbers for researchers and supervisors should be given. It is usual for the HEC to recommend that in order to protect the researcher from unwarranted calls, home telephone numbers and e-mail, as well as addresses should not be given unless there is no alternative;

3. The Information Sheet should include a clear description of the nature and duration of the participant's involvement;

4. The Information Sheet should identify sources of funding, when these might influence participation;

5. Potential participants must be informed of their right to decline to take part. The Information Sheet should not assume participation. Participants should be **invited** to take part. If participants agree to take part, they need to be informed that they have the right to withdraw at any time and to refuse to answer any particular questions at any time;

6. Participants should be informed of the method by which they are being invited to participate;

7. When research involves student participation, it must be made clear to them that participation is voluntary and is independent of any courses on which they are enrolled, or any assessment procedure associated with their course of study, this also applies to patients receiving treatment;

8. Where applicable, include a clear description of potential risks and/or benefits to participants. Where potential risks are identified, indicate procedures for dealing with these;

9. Indicate that a summary of the research findings will be available to participants should they want it. Also include a statement about how the results of the research will be disseminated;

10. The use of any recording devices must be mentioned;

11. When audio tapes are used, if they are to be transcribed, it must be made clear who will transcribe them. If the transcriber is not the researcher, the Information Sheet should indicate that the transcriber will sign a Confidentiality Agreement;

12. Clear indications should be given regarding any procedures for reviewing audio or video tapes and/or transcripts, the ownership of the data, and any arrangements to be made upon completion of the study. Options include the participants retaining the tape(s), agreement that the tape(s) be destroyed or consent to their storage in a research archive;

13. The Information Sheet should contain a clear statement regarding the security of data. Particular care is needed with audio or video tapes in which participants may be easily recognised;

14. Researchers should assure participants that information given will be confidential to the research and any publications resulting from it. Research that involves group interviewing requires particular care in respect of anonymity and confidentiality, and the right of participants to withdraw. If anonymity or confidentiality cannot be guaranteed this should be indicated. Indeed some participants may give permission to be named. Special attention to these details is expected;

15. Where there is a "mail in" questionnaire, the Information Sheet should state:
    - *It is assumed that filling in the questionnaire implies consent. You have the right to decline to answer any questions.*

16. The rights of participants must be clearly stated in bullet point format. Where interviewing is involved, the Information Sheet should advise prospective participants that they have the right to:
    - decline to participate;
    - decline to answer any particular question;
    - withdraw from the study (specify timeframe);
    - ask any questions about the study at any time during participation;
    - provide information on the understanding that their name will not be used unless they give permission to the researcher;
    - be given access to a summary of the research findings when it is concluded.

Note: Where a proposal is being submitted to another ethics committee, the requirements of both committees will need to be taken into account. In this case, researchers should use a combination format or that of an outside body, following the principles required by the Human Ethics Committee.

Information Sheet Format

[Institution's letterhead]

(Project Title)

INFORMATION SHEET

1. The identity of the researcher(s) and the supervisor(s) (where appropriate);
2. How to contact the researcher(s) and supervisor(s);
3. The nature and purpose of the study;
4. What will be asked of the participants, including time involved;
5. How the researcher obtained their name to ask them to consider participating in the study;
6. How the information will be used;
7. What will happen to the information when it is obtained;
8. How confidentiality and anonymity will be protected;
9. What will happen to the data on completion of the study;
10. Statement of rights which should be worded to include:

    You have the right to:

    - decline to participate;
    - decline to answer any particular question;
    - withdraw from the study (specify timeframe);
    - ask any questions about the study at any time during participation;
    - provide information on the understanding that your name will not be used unless you give permission to the researcher;
    - be given access to a summary of the findings when the study is concluded.

Note: The Information Sheet should be designed in accordance with the requirements of your own research, ensuring as much as possible that each point above is covered, although not necessarily under these headings.

APPENDIX 2

Name of Institution

HUMAN ETHICS COMMITTEE

CONSENT FORM

Ethical approaches to research projects require that those participating can make a fully informed decision to participate. This means that, in general, you must prepare a written statement describing the project so that potential participants gain full knowledge of what is to be done, how it is to be done and what the risks of participation may be. Such risks might include a loss of control over private and personal information; for a clinical trial there may be side effects from the substance concerned, etc. It is recommended that the issues listed below be each addressed in the written statement.

PRESENTATION

The document must be printed on the current version of the Institution's letterhead, dated and signed. THIS IS NOT A 'FILL-IN FORM' - YOUR STATEMENT SHOULD BE PREPARED SO THAT IT IS EASILY READABLE TO THE PROSPECTIVE PARTICIPANT. A copy of what you actually propose to give to prospective participants must be included with your application to the Human Ethics Committee.

PROJECT TITLE

The project title - identical to that used in the application - ought to be drawn in a way that will assist prospective participants in understanding what the research is about. It should be in plain language.

INVESTIGATORS

Who is undertaking the particular project - the Principal Investigator (including the name of the supervisor if a student project) and the names of other senior or associate investigators.

EXPLANATION OF PROJECT

Clear explanations, ***in terms the participant can understand***, of the purpose of the investigation, and the procedures to be followed including identification of those, which are experimental. You must include:

- A clear description of what is involved in the project;
- A clear description of any discomfort and possible hazards involved;
- A statement of how much time will be needed;
- A description of the potential benefits for the individual and society;
- A statement that the participant is free to withdraw consent and to discontinue participation in the study at any time; and
- An offer to answer any questions the participant has concerning the procedures, in the following terms:
  Any questions regarding the project entitled <……> can be directed to the Principal Investigator <name> of the Institution/Department/ of <……> on telephone number < >.

PRIVACY PROTECTION

The statement must indicate how the collected data will be protected, who will have access to it, and, under what circumstances and in what manner publication may result from the research.

If participants are to be identified by a coded reference of some sort, it should be made clear who will have access to the keys to the code.

NOTE: *Only the Principal Investigator should have knowledge of the names and code numbers (if any) used. If confidentiality is required to be broken, the Principal Investigator may only do this after consultation with the participant in writing.*

IN THE INTEREST OF FACILITATING APPROVAL OF YOUR PROJECT, PLEASE ENSURE THAT YOUR PROPOSED CONSENT FORM CLEARLY SETS OUT ALL THE ELEMENTS PRESCRIBED ABOVE AND IS ON APPROPRIATE INSTITUTION LETTERHEAD.

AGREEMENT

On a separate sheet (so that the participant can keep the information statement and the researcher can keep a record of agreement) there should be a signed agreement, from the participant, to take part in the activity. In minimal format it would read as follows:

I ***<insert name and address of the participant>*** *have read (or, as appropriate, have had read to me) and understood the information above. Any questions I have asked have been answered to my satisfaction.*

I agree/ do not agree to participate in this activity, under the conditions set out in the Information Sheet. Should I agree to participate, I understand that I may still withdraw at any time.

I agree/do not agree to the interview being audio taped.

I agree/do not agree to the interview being video taped.

I also understand that I have the right to ask for the audio/video tape to be turned off at any time during the interview.

I agree/ do not agree that research data collected for the study may be published or provided to other researchers on the condition that anonymity is preserved and that I cannot be identified.

NAME OF PARTICIPANT..... .....

SIGNATURE..... DATE .....

Or

NAME OF AUTHORISED REPRESENTATIVE ***** ....

RELATIONSHIP TO THE PARTICIPANT ***** ....

POSITION ....

SIGNATURE..... DATE .....

NAME/S OF PRINCIPAL INVESTIGATOR/S..... .....

SIGNATURE..... DATE .....

SIGNATURE..... DATE .....

Additional clauses would be required for a parent to consent to a child's participation, the tape or video recording of interviews, activities or events.

NOTE: * Use this signature block only in such cases where the participant is not capable of providing his/her consent.

APPENDIX 3

Name of the Institution

Letterhead

Declaration on Conflict of Interest

In accordance with the Name of the Institution[1] Guidelines on Research Ethics and Research Conduct, recipients of research grants are required to declare any conflict of interest that would interfere with or compromise the performance of research supported by the funding agency.
Conflicts of interest may arise because an investigator, or someone close to the investigator, stands to benefit financially from the research or the carrying out of the project or because inconsistent or incompatible obligations exist.

Examples of conflict of interest are:

(i) Where an investigator (or where their spouse or dependent) has personal equity holdings in a company that would be affected by the outcome of the research, or that produces the product(s) being evaluated or used in the research;

(ii) Where an entity with a direct interest in the subject matter or materials provides an investigator with benefits, materials or facilities for activities other than research (for instance, travel or accommodation expenses to attend conferences, receipt of honoraria or fees for service); or

(iii) An inability to satisfy clauses in an existing research contract with a third party (government or a commercial sponsor) that contains a relevant agreement on conflict of interest. Such clauses may relate to disclosure of data from related projects supported by other sponsors. Alternatively, the agreement may require the disclosure of material that is to be kept confidential to the current project.

Where there are circumstances which could lead to a conflict of interest, or be seen to do so, each investigator is required to divulge 'in confidence' sufficient information to the responsible Institution to allow a determination on the matter. This Institution may need to consult the sponsor to ensure that the conflict of interest does not compromise the research funded by the sponsor. It must be stressed that the existence of a conflict of interest does not automatically disqualify a researcher from participating in a project.

[1] Use the appropriate Institution's name here

ONE OF THE FOLLOWING TWO STATEMENTS MUST BE COMPLETED

EITHER

DECLARATION

I/We, the undersigned investigator(s) declare that to the best of my/our knowledge and belief the acceptance of a grant/award through the Name of the Institution* for this project does not involve me/us in any conflict of interest. I/We undertake to inform the Name of the Institution* of any conflict of interest in my/our research that may arise during the currency of the grant/award and the Name of the Institution* may so inform the funding agency.

PROJECT TITLE : _____

_____

_____

FUNDING AGENCY: _____

Name: _____ Dept:_____

Signature: _____ Date_____

Principal Investigator

Name: _____ Dept:_____

Associate Investigator Signature: _____ Date:_____

Name: _____ Dept:_____

Associate Investigator Signature: _____ Date:_____

Name: _____ Dept_____

Associate Investigator Signature: _____ Date:_____

* Use appropriate Institution's name here.

OR

I have not signed the above declaration and undertake to disclose 'in confidence' to the person(s) responsible for research management in the Name of the Institution* all matters, which to the best of my knowledge and belief will involve a conflict of interest.

PROJECT TITLE: _____

_____

_____

FUNDING AGENCY: _____

_____

Principal Investigator: Name: _____ Dept: _____
Signature:_____ Date: _____

Associate Investigator Name: _____ Dept: _____
Signature: _____ Date: _____

Associate Investigator Name: _____ Dept: _____
Signature: _____ Date: _____

Associate Investigator Name: _____ Dept: _____
Signature: _____ Date: _____

THIS DECLARATION MUST BE SIGNED BEFORE ANY RESEARCH GRANT IS AWARDED

* Use appropriate Institution's name here.

APPENDIX 4

Institution's letterhead

HUMAN ETHICS COMMITTEE

Please retain these guideline pages for your information.

It is a compulsory requirement that all projects involving human subjects must meet certain standards and have written approval from accredited ethics committees. The Name of the Institution* Human Ethics Committee (HEC), or one of its sub-committees, has responsibility for ensuring that research within the Institution has met ethical principles.

Responsibility of the researcher

It is the responsibility of the researcher(s) to ensure that ethics approval is obtained in writing before a project is commenced. NO DATA MAY BE COLLECTED FROM ANY HUMAN PARTICIPANTS WITHOUT THIS APPROVAL. It is your responsibility to be familiar with the requirements of the Institution's policy on the conduct of research. You should also, as a minimum, be familiar with specific legislation or Statutory rules which may apply to the particular aspect of research being undertaken.

FORM OF CONSENT

You are required to prepare and present a written statement, in plain language, describing the project in order that potential participants may make an informed choice as to whether or not they wish to participate. Following HEC approval of your project, a copy of the statement must be given to all prospective participants.

ATTACHMENTS TO YOUR APPLICATION

Please ensure that the following attachments are enclosed with your completed application:

- A copy of any questionnaire or other survey instrument, or interview protocol being used for data collection within the project;
- Consent Form (as appropriate);
- Written permission to use public or private premises;
- Written approval by other Ethics Committee(s);
- Copy of any ethical approval form requiring signature if you are seeking external funding for your project; and
- Disclosure of any funding or other remunerative or support arrangements for the project.

THIS FORM DETAILS YOUR RESEARCH PROTOCOL

Your forms will be read by several people - please ensure that your explanations are concise and complete. To avoid delays in the process of obtaining approval for your application, please make sure that:

- it is typed;
- plain language is used;
- all questions are addressed;
- there is a full description of what will be requested of participants in your project;
- approvals in writing are included for all other relevant bodies;
- the Information Sheet and Consent Form are presented as they will be provided to prospective participants;
- all applicants have signed the Consent Form; and
- your completed application is received by the Secretary of the HEC, 2 weeks prior to the closest advertised meeting date.

Please return the completed form and relevant attachments to:
The Secretary, Human Ethics Committee
of your Department/Institution

* Use appropriate Institution's name here.

ADDITIONAL ISSUES TO BE CONSIDERED IN THE CONDUCT OF RESEARCH

RESEARCH INVOLVING COMMUNITY-BASED ASSOCIATIONS

1. Research involving community-based association should be undertaken in a manner sensitive to the culture and traditions of the persons and groups involved.
2. In particular, researchers should note:
   - the significance of elders in community life and decision-making (research may involve consultation with the community as well as the individual);
   - 'family' as a core concept and the various obligations associated with particular kin relationships;
   - personal, as distinct from professional, relationships in establishing conditions for further interaction;
   - the need for extended timeframes in which decisions are made and the collective nature of those decisions;
   - the status of individual autonomy within a cultural system of collective responsibility for social interaction;
   - the first language of communication among community members;
   - the concepts of 'women's business' and 'men's business'; and
   - the publication of only appropriate material and text (for example, not including names or photographs, nor referring to individuals or practices where these acts offend community sensibilities).
3. Persons proposing research projects should consult with the relevant agencies/organisations working on community-based programmes prior to finalising the definition of the project.

DATA STORAGE AND RETENTION

1. Data (including electronic data) must be recorded in a durable and appropriately referenced form. Data management should comply with relevant privacy protocols[1].
2. Each Department within the Institution must establish procedures for the retention of data and for the keeping of records of data held[2].
3. Data must be held for sufficient time to allow reference. For data that is published this may be for as long as interest and discussion persists following publication. It is recommended that the minimum period for retention is at least 5 years from the date of publication but for specific types of research, such as clinical research, 15 years is considered more appropriate.
4. Wherever possible, original data should be retained in the Department in which they were generated. Individual researchers should be able to hold copies of the data for their own use. Retention solely by the individual researcher provides little protection to the researcher or the institution in the event of an allegation of falsification of data.
5. Data related to publications must be available for discussion with other researchers. Where confidentiality provisions apply (for example, where the researchers or an Institution have given undertakings to third parties, such as the subjects of the research), data should be kept in a way that reference to them by third parties can occur without breaching such confidentiality.
6. Storage arrangements for data relating to research into community-based matters must be determined in compliance with this policy after consultation with the communities involved.
7. Confidentiality agreements to protect intellectual property rights (IPR) may be agreed between the Institution, the researcher and a sponsor of the research. Where such agreements limit free publication and discussion, limitations and restrictions must be explicitly agreed. Where the research is into community-based matters, issues of confidentiality and rights to reproduction shall be agreed with the relevant communities involved prior to commencement of the research.

[1] If such a protocol is not in place, this may need to be set up.
[2] The use of a 'Location of Data' form is recommended.

8. It is the obligation of the researcher to inquire whether confidentiality agreements apply and of the Head of the Institution/Department to inform researchers of their obligations with respect to these provisions.
9. All confidentiality agreements should be made known at an early stage to senior management of the Institution.
10. The Institution's policies on access to and use of databases containing confidential information must be observed.
11. When the data are obtained from limited access databases, or via a contractual arrangement, written indication of the location of the original data, or key information regarding the database from which it was collected, must be retained by the researcher and/or by the Department.
12. Researchers are responsible for ensuring appropriate security for any confidential material, including that held in computing systems. Where computing systems are accessible through networks, particular attention to security of confidential data is required. Security and confidentiality must be assured in a way that copes with multiple researchers and the departure of individual researchers.

AUTHORSHIP

Please refer to section 3 on authorship in the Mauritius Research Council 'Guidelines on Research Ethics and Conduct of Research'.

PUBLICATION

Please refer to section 4 on publication in the Mauritius Research Council 'Guidelines on Research Ethics and Conduct of Research'.

APPENDIX 5

HUMAN ETHICS COMMITTEE

Date Received

APPLICATION FOR ETHICS APPROVAL of a RESEARCH PROTOCOL

SECTION A: GENERAL INFORMATION

PROJECT TITLE	
APPLICANT DETAILS	Show names and contact details (Where project is part of student research, the Coordinating Supervisor is an applicant: List name first)
PRINCIPAL INVESTIGATOR (PI) (Where project is part of student research, the Supervisor must be the PI)	Name Qualifications Tel E-mail Fax Department / Research Centre / Institute Address for correspondence
Please ensure that all entries show postal, and e-mail contact addresses as well as phone and fax contact numbers	Name and contact details Qualifications Tel E-mail Fax Student Identification Number
ADD sections for additional applicants if required.	Name and contact details Qualifications Tel
Names of other Senior and Associate Investigators	
	Name Qualifications Tel
	Name Qualifications Tel

PERIOD DURING WHICH ACTIVITIES REQUIRING ETHICS APPROVAL WILL OCCUR From *dd mm yyyy* To *dd mm yyyy*

TYPE OF ACTIVITY	☐ Research by Academic Staff Member	☐ Contract Research (attach copy of contract)
	☐ Supervised Postgraduate Research	
	☐ Supervised Undergraduate Research Subject code Subject title Number of students involved	☐ Supervised Class Practicals

The Ethical Guidelines for Biomedical Research Involving Humans Subjects requires that:

- Every research proposal must demonstrate that the research is justifiable in terms of its potential contribution to knowledge and is based on a thorough study of current literature as well as prior observation, approved previous studies, and where relevant, laboratory and animal studies;
- All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained; and
- Research must be conducted or supervised only by persons or teams with experience, qualifications and competence appropriate to the research. Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

A1 WHY IS THE PROJECT TO BE UNDERTAKEN

Describe the educational and/or scientific aims of the project *(boxes will expand for your text)*

A2 WHAT - BRIEF DESCRIPTION OF PROJECT

In plain English

A3 HOW - PROCEDURES

Please describe all 'procedures' to which the participants will be subjected, and asterisk those which may have adverse consequences.

Please include as appendices all questionnaires, interview protocols, etc.

If you feel that it is necessary to include further material, please append.

A4 DESCRIBE ANY RISKS THAT MAY ARISE TO THE PARTICIPANT / DONOR?

Risks to participants (and to researchers) can be real but do not need to be physical. Risks includes factors such as self esteem, regret, embarrassment, civil or criminal liability, disease, physical harm, etc. Please consider such possibilities carefully.

Some research activities may put the *participant* at risk through what is being done, or simply through their participation.

Please describe the risks you perceive and the protective measures to be taken.

A5 DESCRIBE ANY RISKS THAT MAY ARISE TO THE RESEARCHER / ADMINISTRATOR?

Some research activities may put the *researcher* at risk through what is being done or simply through their participation.

Please describe the risk you perceive and the protective measures to be taken.

A6 WHAT BENEFITS ARE ANTICIPATED FROM THE PROJECT

Ethical principles would require that benefits flow from the activities - but please beware of grandiose claims.

(a) To the participant

(b) More generally

A7 POTENTIAL PROBLEMS

From time to time in the course of a research project important information, such as individuals at risk, or entirely unforeseen events may come to pass. What procedures are in place to handle unexpected or particularly significant personal information that may come to light through the project, such as identification of unknown medical or psychiatric condition, a particularly distressed participant, etc.

A8 ETHICAL TRAINING FOR CLASS-BASED PROJECTS AND EXERCISES

Class-based projects can be innocuous or can, through inexperience, lack of training, etc., lead to unexpected problems. Such projects must therefore be considered in that different light.

Where the project is a class-based exercise please describe briefly the training your students have, or will have received, in ethical conduct of research.

Please describe briefly the measures taken to ensure that your students are competent to carry out the project

A9 FUTURE USE OF DATA

Will any of these data be used by yourself, your students or others for any purpose other than for this project as described in the protocol? If so please describe.

A10 EXTERNAL INVOLVEMENT

Is a body external to Name of Institution[1] involved in the initiation or support of this project?

☐ Yes (Name of body/organisation)

If an external body is associated with the project you must provide the HEC with details of the arrangements, *including details of any funding being provided*. A copy of the contractual arrangements should be attached.

☐ No

A11 EXTERNAL APPROVALS

Projects involving other bodies may require approval from other Institutions or Ethics Committees, next of kin, etc., for such things as access to prospective participant lists, data, facilities, etc. A copy of such approvals must be provided to the HEC at the time of application or be made available as soon as possible. No project may commence until such approvals are provided.

Please indicate, as appropriate, if formal clearance/permission has been obtained or sought:

Institutional Yes ☐ Documentation Attached ☐ or to follow ☐

Next of kin (for special groups) Yes ☐ Documentation Attached ☐ or to follow ☐
(estimate when likely to be obtained)

☐ No (please explain)

[1] Use the appropriate Institution's name here.

SECTION B: ETHICAL ISSUES OVERVIEW

B1 ETHICAL ISSUES

Please indicate what, in your view, are the ethical issues involved in this research. The following is a checklist of possible ethical issues.

	Double click on appropriate 'check box' to select	YES	NO
(a)	Is deception of any kind to be used?	☐	☐
(b)	Does the data collection process involve access to confidential personal data (including access to data provided for a purpose other that this particular research project) without the prior consent of subjects?	☐	☐
(c)	Will participants have pictures taken of them, for example, photographs, video recordings? If "YES", please explain below how you intend to retain confidentiality and ultimately dispose of the material.	☐	☐
(d)	If interviews are to be conducted, will they be recorded? If "Yes", please explain below how you intend to retain confidentiality and ultimately dispose of the material.	☐	☐
(e)	Will participants be asked to perform any acts or make statements which might be expected to compromise them, diminish self esteem or cause them to experience embarrassment or regret?	☐	☐
(f)	Might any aspect of your study reasonably be expected to place the participant at risk of criminal or civil liability?	☐	☐
(g)	Might any aspect of your study reasonably be expected to place the participant at risk of damage to their financial standing or social standing or employability?	☐	☐
(h)	Will the research involve access to data banks subject to privacy legislation? *(NOTE: reference to be made to the appropriate legislation)*	☐	☐
(i)	Will participants come into contact with any equipment which uses an electrical supply in any form e.g., audiometer, biofeedback, electrical stimulation, etc.? If "YES", please outline below what safety precautions will be used.	☐	☐
(j)	Will any treatment be used with potentially unpleasant or harmful side effects?	☐	☐
(k)	Does the research involve any stimuli, tasks, investigations or procedures which may be experienced by participants as stressful, noxious, aversive or unpleasant during or after the research procedures?	☐	☐
(l)	Will the research involve the use of no-treatment or placebo control conditions?	☐	☐
(m)	Will any samples of body fluid or body tissue be required specifically for the research which would not be required in the case of ordinary treatment?	☐	☐
(n)	Will participants be fingerprinted or DNA 'fingerprinted'?	☐	☐
(o)	Are there in your opinion any other ethical issues involved in the research?	☐	☐

Double click on appropriate 'check boxes' to select

NOTE: If the answer to any of the above questions is "YES", please explain and justify below. *(The box below will expand to fit your response.)*

Attach further documents if appropriate.

SECTION C: PARTICIPANT DETAILS

C1 PARTICIPANT DETAILS

The composition of the participant group may, in some circumstances, distort and invalidate an outcome, and risks may arise through the composition of the participant group.

How many individual participants will be involved? *(Number for which approval is sought)*

Males: ☐ Females: ☐ Total participants ☐

If there is a gender imbalance in the number of participants, please explain why.

Over what range of ages?

From (youngest): ☐ To (oldest): ☐

If there is an age imbalance in the number of participants, please explain why.

C2 RECRUITMENT

How will participants be recruited?

Indicate how names of potential participants will be obtained.

NOTE: Where participants are obtained from or through schools, hospitals, prisons or other Institutions, permission/approval from the Institution or appropriate authority must be sought. If by advertisement or poster, please attach a copy of the proposed advertisement or poster.

C3 PRE-EXISTING CONDITIONS

In some situations an underlying medical condition of a participant may result in an otherwise relatively innocuous situation causing excessive stress, which may exacerbate the condition. Researchers must therefore be aware of such situations and have addressed the potential resulting issues.

Do participants have any medical condition of which you are aware, for instance, diabetes, asthma, depression, epilepsy? What steps are in place to handle any potential resulting problems?

C4 INFORMATION SHEET AND INFORMED CONSENT

(See Information Sheet and Consent Form: Appendices 1 and 2)

How will participants be informed about the project:

☐ Individual forms of Information Sheet and Consent Form will be used *A copy must be attached to your application*

☐ Individual forms of Information Sheet and Consent Form by return of anonymous questionnaire

☐ Verbal advice (please explain how and why)

☐ Other (please explain how and why)

C5 COMPENSATION

Consent to participate must be freely given and not induced through the level of reward, perceived reward, or power relationships.

Provide details of any financial, or other reward or inducement, being offered to subjects for participation.

C6 RELATIONSHIP TO INVESTIGATOR(S)

Free consent may be difficult to ensure if the participant is dependent upon the investigator for employment, assessments, etc. Some relationships cause special ethical issues to arise.

Are participants linked to the investigator through some particular relationship – for example, employees ultimately responsible to, or superiors of the investigator, students of investigator, family members, friends, etc.

C7 INVOLVEMENT OF SPECIAL GROUPS

Particular issues of consent may arise where special groups of participants are to be involved (see 'Statement of General Principles, section 2). There may be, for example, a need to obtain informed consent from persons other than the direct participant. Examples of such special groups include children and young persons, groups with special circumstances (persons with an intellectual or mental impairment).

Describe the nature of the groups and procedures used to obtain permission.

C8 PRIVACY

Does the research involve access to data which was collected by an organisation for its own purposes (that is, not specifically collected for *this* project) such as student records, other data banks, human pathology or diagnostic specimens provided by an Institution?

If 'YES', please indicate source(s).

C9 LOCATION OF STUDY

Please indicate where the research will be carried out. If the research will not be on the Institution's premises, permission of owner / occupier will be required. Indicate how permission will be obtained. *Note: Please provide the Secretary, HEC, with a copy of the letter indicating permission has been obtained.*

SECTION D: RECORDING, STORAGE AND PUBLICATION OF DATA

D1 RECORDING OF DATA

Data must be retained intact for a period of at least 5 years from the date of any publication which is based upon it (15 years for data relating to clinical research). *See Mauritius Research Council 'Guidelines on Research Ethics and Conduct of Research'.*

(a) How will data be recorded?

Data must be recorded in a durable form with appropriate references.

(b) Will confidentiality of results be maintained?

☐ NO (explain) ☐ YES (detail)

(c) Will participants be:

☐ Identified (data that allow the identification of a specific individual are referred to as identified data)

☐ Potentially identifiable (data may have identifiers removed and replaced by a code. In such cases it is possible to re-identify the person to whom the data relate so the process of de-identification is reversible)

☐ De-identified (not re-identifiable, anonymous) (the process of de-identification is irreversible)

Explain how anonymity will be assured through the study.

D2 SECURITY OF DATA

Please indicate how security will be maintained:

(a) During the study

(b) Following completion of study

D3 PUBLICATION

The Mauritius Research Council 'Guide on Research Ethics and Conduct of Research' requires that no individual person or community group may be identified in any publication, without their specific and informed consent.
Please explain:

- what publication, if any, is envisaged following the project;
- will participants be informed that results from the study may appear in publications?

(NOTE: These details are normally to be included in the Information Sheet given prior to obtaining informed consent.)
Would any participants be able to be identified through the publication? Explain why this is necessary.

D4 ANY OTHER INFORMATION OF WHICH THE COMMITTEE SHOULD BE AWARE

(For instance, restrictions on publications.)

SECTION E: SUBSTANCES AND CLINICAL ISSUES

☐ No matters in this section are applicable to the study ***or***

E1 ADMINISTRATION OF SUBSTANCES/AGENTS

Name of substance(s)		
Dosage per administration		
Frequency of administration		
Total amount to be administered		

Anticipated effects:

NOTE: If the research involves administration of foreign substances or invasive procedures, please attach a statement accepting responsibility for those procedures by a medical or paramedical practitioner with Indemnity insurance.[1]

☐ STATEMENT ATTACHED

E2 DRUG TRIALS

CTN Phase I ☐ Phase 1 – first administration to humans
CTN Phase II ☐ Phase 2 – early participant trials to determine dose ranges, efficacy and safety
CTN Phase III ☐ Phase 3 – extended trials in large numbers of participants
CTX ☐
Routine / Other ☐

CTN: Notification Scheme – Safety of the drug(s) has not been reviewed or approved by Pharmaceutical Services, Ministry of Health and Quality of Life, and responsibility for its evaluation rests with the Ethics Committee
CTX: The safety of the drug has been reviewed or approved by the Pharmaceutical Services and Ministry of Health and Quality of Life
Routine: Drug(s) involved are marketed in Mauritius and, in that formulation, are being used for an approved indication and in an approved dosage regimen.

E3 BODY FLUIDS OR TISSUE

What fluids or tissue will be used? How will the samples be obtained?

[1] This type of insurance may be required if not already in place.

Frequency and volume.

How are samples to be stored?

How will samples be disposed of?

Who will take the samples?

What are their qualifications for doing so?

Do participants carry, as far as you know, the Hepatitis B or HIV virus? If so, how will the risks be handled?

Do participants carry, as far as you know, any other contagious diseases or viruses? If so how will the risks be handled?

SECTION F DECLARATIONS

We, the undersigned, are familiar with, and have access to copies of the Institution's policy on the conduct of research, and related legislation pertaining to biomedical research involving human subjects. We accept responsibility for the conduct of this research, in accordance with the principles contained in the 'Ethical Guidelines for Biomedical Research Involving Human Subjects' and any other conditions specified by the Human Ethics Committee (HEC) of the Institution.

NAME *(block letters)*	SIGNATURE	DATE

The Human Ethics Committee may seek expert advice and assistance in the evaluation of the scientific merit of this research project where appropriate.

YOU ARE REMINDED THAT PROJECTS MUST NOT BEGIN WITHOUT PRIOR WRITTEN APPROVAL FROM THE HUMAN ETHICS COMMITTEE OR ITS APPROPRIATE SUB-COMMITTEE.

WHENEVER POSSIBLE, APPLICATIONS SHOULD BE DIRECTED THROUGH THE INSTITUTION'S ETHICS SUB-COMMITTEE IN THE FIRST INSTANCE.

PLEASE ENSURE THAT YOU HAVE INCLUDED ALL NECESSARY ATTACHMENTS.