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THE UNIVERSITY OF HONG KONG
LI KA SHING FACULTY OF MEDICINE

Code of Conduct on Research Integrity

Fabrication, Falsification and Plagiarism

Purposes

- To uphold ethical practices in publication of research results with authenticity, originality, accuracy and integrity.
- To uphold the University policy on zero tolerance for any forms of fabrication, falsification and plagiarism.
- To cultivate a culture of proper self-monitoring and monitoring in all areas of research activities.

Definitions

- Fabrication: The invention of data or information in the absence of any research activity, and the recording or reporting of such phantom activity.
- Falsification: The manipulation of research data, equipment or process, or the changing or omitting of data such that the outcome is no longer an accurate representation of the research record.
- Plagiarism: The unacknowledged use, as one's own, of work of another person, whether or not such work has been published; including self plagiarism.

Practical guidelines

- Uphold the principle of honesty at all time. *"Rather fail with honor than succeed by fraud"* Sophocles.
- Uphold the principle of integrity at all time. *"Most people say that it is the intellect which makes a great scientist. They are wrong: it is character"* Albert Einstein.
- Exercise the strict monitoring of the generation and recording of research data, and the experimental process.
- If any form of alteration is deemed necessary to highlight a key issue, it must be stated clearly in the recording and publication.
- Ensure that a manuscript for publication is original and previously unpublished in any language.
- When necessary, use a plagiarism detecting software (such as Turnitin) to assist in the writing process.
- Teach and highlight the values of honesty and integrity in research to students and colleagues.
- Develop a fair policy of reporting and encourage the reporting of fabrication, falsification and plagiarism.

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Management of Research Data and Records

Purposes

- To uphold good research practice with the retention of complete, accurate and retrievable results for the minimal period required.
- To enable discussion and verification of research methods and data that may be required to refute allegations of falsification claims.

Key Principles

- All research data should be open to scrutiny and debate.
- Research Centers and Departments in the Faculty should establish formal procedures for the documentation and retention of research data.
- Original research data should be retained intact for a period of at least five years from the date of publication or longer as necessary.
- All researchers must comply with these retention procedures.

As a guideline, researchers should ensure that

- The original data and records remain the property of the University and shall be kept by PIs/Departments. Copies can be retained by individual researchers if necessary. Upon departure, researchers must return original data and records to the University but copies may be kept by researchers concerned with proper permission.
- Research data are recorded in appropriately bounded booklets with numbered pages.
- Digital results and databases are stored in chronological orders with file access/modification dates available for verification.
- Records are accurate, complete, authentic and reliable, with cross reference to a table of content.
- Records and data reflect what was communicated, decided, and performed in the laboratory or clinic.
- Research methods and data are recorded in sufficient details for authentication, replication and verification.
- There are clear recording of statistical methods, equipment calibration and operation logs, experimental designs, reagents, solution concentrations, and computer data input/output files.

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Authorship and Publication

Purposes

- To uphold ethical practices in publication of research results with authenticity, originality, integrity and without illegitimate duplication.
- To encourage the proper assumption and assignment of authorship that reflects the actual contribution of various participants of the research team.
- To encourage the proper acknowledgment of both academic and non-academic contributions from various sources.

Definitions

- Duplicate publication: a paper that is identical to or overlaps substantially with one already published, without acknowledging the first publication.
- Salami publication: dividing one piece of research into a number of small parts.
- 'Ghost author': is an individual who has made a substantial contribution to the research or writing of a manuscript and not designated as an author.
- 'Guest' or 'gift' author: is an individual who has not made substantive contribution to a manuscript and meets authorship criteria but assigned authorship due to leadership role in a research field ('guest') or institutional status ('gift').

Practical guidelines

- A manuscript for publication should be original, previously unpublished and not being concurrently considered for publication by more than one journal.
- Duplicate and 'salami' publications should not be allowed.
- 'Ghost', 'guest' or 'gift' authorships are unethical and should be disallowed.
- Publication of the same paper in two or more languages should not be allowed unless it is explicitly stated that the paper is translated from another language and the original publication is properly cited.
- Authors should make substantial contribution to the conception/design of the research, acquisition/analysis/interpretation of data, drafting/revising the intellectual content of the article and approving the final version to be published.
- Acquisition of funding or collection of data only does not qualify for authorship.
- The first author is usually one who performs the research and writes the manuscript; the corresponding author is usually responsible for the accuracy of the paper, ensuring the listing of all deserved authors, obtaining the approval of the final draft by all authors and handling all correspondences.
- It is a good practice to describe the specific contribution of each author.
- One may refer to the web-site of International Committee of Medical Journal Editors (http://www.icmje.org/) for more guidance.

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Conflict of Interest

Purpose

- To enhance researchers' awareness and understanding of their obligation to identify, avoid or make known the existence of a potential or actual conflict of interest (COI) that can be defined as any situation in which an individual, institution or corporation is in a position where personal, institutional or corporate interests could interfere with a professional obligation.

Circumstances of COI

- It is common for researchers to be in situations of COI.
- COI can take several forms including financial, scientific and intellectual.
- A common form of financial COI is monetary compensation, which includes multiple pay for the same job, gifts, etc.
- Scientific COI usually involves unfair review of manuscripts or research grant applications, including intentional delay of publication of a competitor's manuscript, exceptional leniency in reviewing methods or products that the reviewer has a personal interest, and being exceptionally critical to manuscripts that belong to competitors.

Practical guidelines to minimize COI

- Researchers should always explicitly disclose to relevant parties any COI that they may have.
- Researchers should decline excessive speaker's fees and other overly generous provisions such as first class air travel and luxury hotel from an outside corporation.
- Researchers should carefully assess the potential of COI before they enter into any partnership, collaboration or consultancy agreement with an outside corporation.
- Researchers should declare potential COI when reviewing grant applications or manuscripts.

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Clinical Research Ethics

Purposes

- To enhance the awareness of ethical principles of research involving human subjects and human biological materials.
- To ensure the rights of human subjects are respected and protected.

Key principles

- Only socially valuable and scientifically valid clinical research that can demonstrably increase knowledge that benefits the health of people and well-being of the society should be conducted.
- Researchers should be fair in both recruiting and deciding who can be participants in a study.
- Human subjects participating in research possess rights that must be respected and protected by researchers.
- Research involving human subjects should abide by the ethical principles stipulated in the Declaration of Helsinki and the Good Clinical Practice guidelines provided by the International Conference on Harmonization.
- All clinical research involving human subjects, living or deceased, and human biological materials should be independently reviewed and approved by an Institutional Review Board.

Practical guidelines

- All clinical research should be carefully designed with appropriate social values and scientific goals.
- Researchers should always minimize the risks of research subjects who should be protected from unnecessary and significant harm.
- Relevant information on the purposes, conduct, risks and benefits, alternative treatments, availability of compensation, storage and future use of biological materials, voluntary nature of participation, the right to withdrawal at any time, source of research funding etc should be provided to research subjects in a language understood by them before their consents are obtained.
- Informed consent from competent human subjects should be obtained without undue influence or coercion.
- For incompetent subjects, informed consent should be obtained from legal guardians and assent from the subjects if they are capable of giving it.
- Anonymity of subjects, confidentiality of information and security of personal and clinical data related to the research human subjects and those linked to human biologic materials should be guaranteed.
- Researchers should be reminded that human biological materials and their derivatives should remain in custody of the University and they must return these materials to the University upon their departure.
- Researchers have the duty to disseminate clinical research findings for the benefit of the research community and society.

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Animal Research Ethics

Purposes

- To provide guidance to researchers in fulfilling their obligation to conduct animal research with the highest scientific, humane and ethical principles.
- To ensure the humane care and use of vertebrate animals in all activities related to research and teaching.
- To ensure animal research is conducted in accordance with all applicable laws, regulations, guidelines and policies governing the use of laboratory animals.

Key Principles

- Animal research should contribute to the enhancement of human or animal health, the advancement of knowledge and the good of society.
- The tenets of the "Three Rs" – Replacement, Reduction and Refinement – should be incorporated in the design and conduct of animal experiments.
- Animals should only be used for scientific and educational purposes when there are no satisfactory or reasonably practical alternatives to their use.
- Research protocols should minimise the pain and distress which the animals experience.
- Only the smallest numbers of animals should be used to obtain valid results.
- Animals used for scientific or educational purposes should be maintained under the highest standards of care and welfare.

Guidelines for Use of Animals in Research and Teaching

- The animals selected for a procedure should be of an appropriate species and quality in terms of their genetic, microbiological and nutritional status.
- Unless the contrary is established, researchers should consider that procedures that cause pain or distress in human beings may cause pain or distress in other animals.[1]
- Procedures with animals that may cause more than momentary or slight pain or distress should be performed with appropriate sedation, analgesia or anesthesia. Surgical or other painful procedures should not be performed on un-anesthetized animals paralyzed by chemical agents. [1]
- Humane endpoints should be established before animal use begins. Animals that would otherwise suffer severe or chronic pain or distress that cannot be relieved should be painlessly killed at the end of the procedure or, if appropriate, during the procedure. Method of euthanasia should be consistent with the recommendations of the *"American Veterinary Medical Association Panel on Euthanasia"*.
- The housing condition of animals should be appropriate for their species and contribute to their health and comfort.
- Principal investigators and research team members should be appropriately qualified, trained and experienced for conducting procedures on and ensuring humane care and use of laboratory animals.
- Animal experiments should be performed in accordance with the *Animals (Control of Experiments) Ordinance, Cap. 340; Agriculture, Fisheries and Conservation Department's "Code of Practice for Care and Use of Animals for Experimental Purposes"* and *CULATR (Committee on the Use of Live Animals in Teaching and Research) Guidelines*.
- Ownership of animal samples should belong to the University. It is the responsibility of students and staff leaving HKU to return animal samples to their Department upon departure.

[1] Source: http://www.aalas.org/

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