PUBLICATION AND RESEARCH ETHICS

Dr. G. Yoganandham,
Professor & Head,
Department of Economics,
Thiruvalluvar University (A State University),
Serkkadu, Katpadi Taluk, Vellore District, Tamil Nadu ,
India- 632 115.

ETHICS

The area of philosophy known as ethics, or moral philosophy, "involves systematizing, defending, and endorsing conceptions of good and bad action." Ethics, like aesthetics, is concerned with considerations of worth; together, these fields make up the area of philosophy known as natural science.

RESEARCH

Creative and systematic activity undertaken to enhance the reservoir of knowledge is what research is defined as. It entails gathering, organizing, and analyzing data in order to gain a better knowledge of a topic or issue. A research project could be a continuation of previous work in the topic.

RESEARCH ETHICS

Research Ethics is defined here to be the ethics of the planning, conduct, and reporting of research. It is clear that research ethics should include: Protections of human and animal subjects.

The application of basic ethical concepts to research activities, such as the design and implementation of research, respect for society and others, the use of resources and research outputs, scientific misconduct, and research regulation, is what research ethics is all about.

DEFINITION OF RESEARCH ETHICS

Research ethics provides researchers with the guidelines to conduct their research responsibly. Furthermore, research ethics committees monitor and educate researchers to ensure that high ethical standards are kept throughout the research process. Generally, research ethics focuses on the analysis of ethical concerns that come up when people are involved in a particular research.

OBJECTIVES OF RESEARCH ETHICS

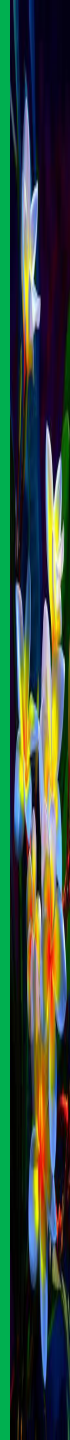
Research ethics has three objectives, which include:

Protecting human participants;

Ensuring that research is done in a manner which serves the interests of people, groups or society; and Examining research projects and activities for their ethical standards, checking for things like risk management, safeguarding of confidentiality and the procedure of informed consent.

For a long period, research ethics has mainly focused on issues concerning biomedical research. The use of ethical research in examining and evaluating biomedical research was developed many years ago, and it has affected some of the existing guidelines and statutes governing ethical conduct of research. However, different types of ethical issues pop up when it comes to humanities and social science research.

Today, there are new and emerging ways of conducting research, like participatory action and auto-ethnography research that raise a critical, but distinctly different ethical concerns and obligations for researchers. Additionally, research that involves vulnerable groups of people, such as people who are institutionalized, people with cognitive or developmental disabilities, children, people without legal status or the homeless also raises concerns in any research context.



PRINCIPLES OF RESEARCH ETHICS

Undeniably, researchers face several ethical requirements. Every researcher must meet the set institutional, federal and professional standards for conducting research that involves human participants. The following are some of the general research ethics:

Honesty – researchers should honestly report data, research methods, and procedures, results, and publication status. Never falsify, fabricate or misrepresent data.

Objectivity – always aim to avoid biases in experimental design, data analysis and interpretation, personal decisions, expert testimony, peer review and all other aspects of research.

Integrity – do not act contrary to your promises and agreements. Do your research with sincerity and endeavor for regularity of thought and action.

Carefulness – avoid negligence and making careless errors. Ensure that you carefully and critically scrutinize your work as well as the work of your friends. It is always good to keep the records for every research activity.

Respecting intellectual property – always respect copyrights, patents and any other type of intellectual property. Never use unreleased data, methods or results without consent. Never plagiarize, and always give credit where it is due.

Confidentiality – safeguard confidential information like personal information, military or trade secrets, and patient records. Never disclose any of this information without the necessary permission.

IMPORTANCE OF RESEARCH ETHICS

Both researchers and participants gain from following ethical norms and principles. To begin with, they aid in the promotion of research's broad goals, such as the pursuit of knowledge and the desire to avoid errors. Second, ethics encourage qualities such as respect, trust, and accountability, which are essential for successful collaboration. Third, they play a vital role in holding researchers accountable to societies and communities, which increases public trust and support for research.

For a variety of reasons, research ethics are critical. They foster research goals such as knowledge expansion. They believe in ideals like mutual respect and fairness, which are essential for collaborative work. Because scientific research relies on collaboration between researchers and groups, this is critical.

Ethics are the principles that guide us to make a positive impact through our decisions and actions. Ethics play an important role not only in our personal lives but also in business. We are all encouraged to make ethical choices and apply ethics in all areas of our lives.

Dos and Don'ts of Research Ethics

Do's	Don'ts
Maintaining a good record of all your research activities and report your data as carefully and objectively as possible.	Fabrication, manipulation or misrepresentation of data.
Disclose financial or personal interests that may directly/indirectly affect your work.	Deceiving research sponsors, colleagues, or ethical committees by having bias in data interpretation, peer review, or personnel decisions.
Treat animals with care and respect when studying them in your research and adhere to ethical guidelines.	Use any external research data (published or unpublished) without permission.
Respect intellectual property, privacy, and confidentiality and give proper credit for any contributions from other researchers.	Support irresponsible publication practices. Your main goal should be to advance science and share your knowledge within the community.


Rules and Regulations
Rules of Conduct
Values
Ethics
Ethical Practices
Research
Moral Principles


Research Ethics
Integrity
Respect
Rules
Regulations
Justice
Dignity
Confidentality
Competence
Moral Principles
Ethcial Practices
Values
Privacy
Honesty
Beneficence
Autonomy
Non Maleficence

Research Ethics and Governance structure

https://ulsites.ul.ie/researchethics/sites/default/files/Research%20Ethics-%20Approval%20Procedures.pdf

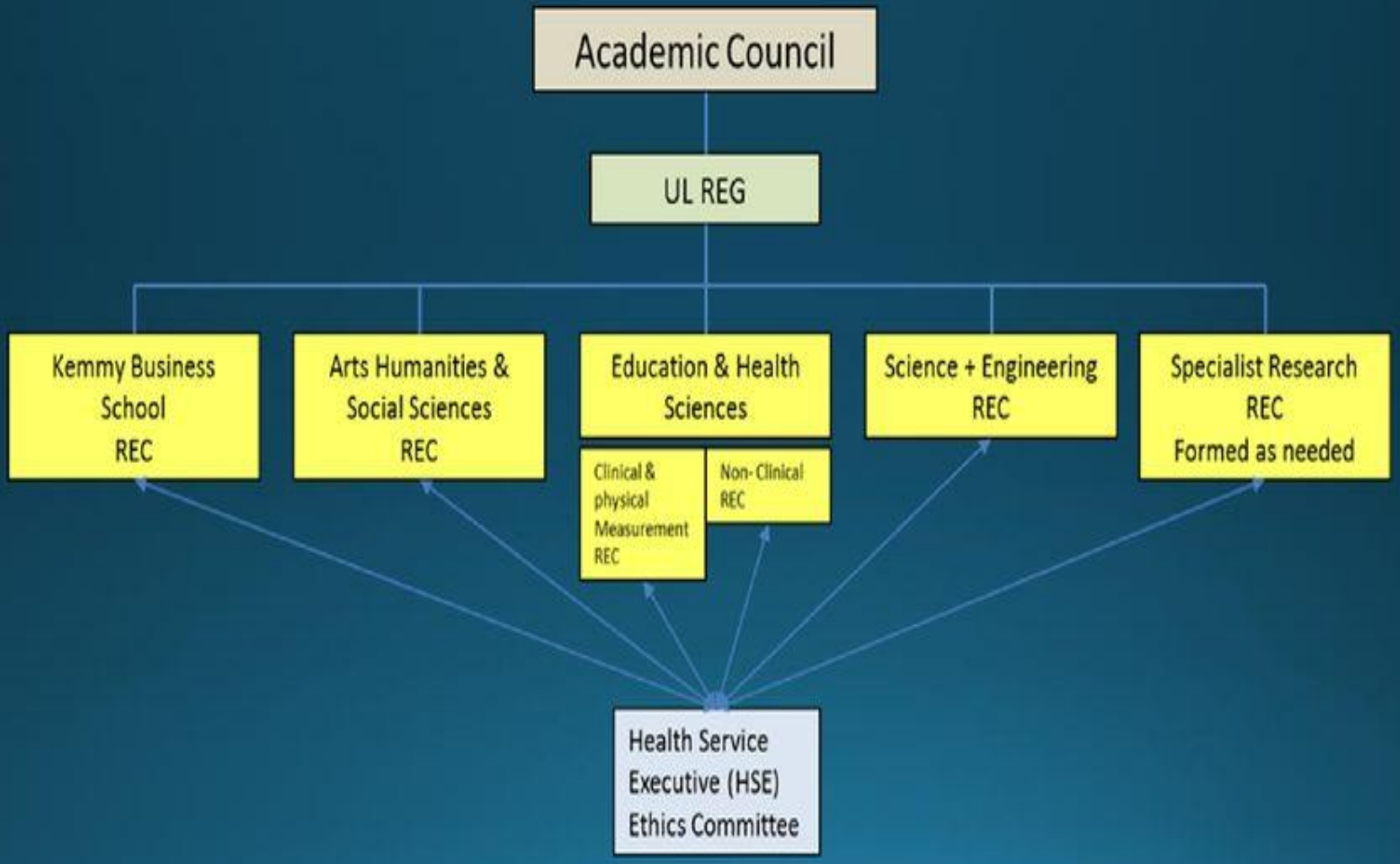


Figure 1 Research Ethic Committee Structure

ETHICS DEFINED

- A discipline dealing with what is proper course of action for man (Aristotle, *cit in* Mckeon,1941)
- A branch of philosophy that looks at what is good and what is bad
- A system of obligation that we have towards others
- Also known as moral philosophy, involves, systematising, *defending*, and *recommending* concepts of right and wrong behaviour *(www.iep.utm.edu/ethics)*
- *A study of principles guiding the good of the individual within the context of social interactions and the community*

ETHICS DEFINED

ETHICS AS A THEORETICAL ENTERPRISE

Meta Ethics: "*is a branch of analytic philosophy that explores the status, foundations, and scope of moral values, properties, and words"* *Source:* https://www.princeton.edu/~achaney/tmve/wiki100k/docs/Meta-ethics.html

Normative Ethics: addresses the question of 'What ought to be done?' Normative Ethical theorists (Socrates, Kant, Stuart, Bentham) seek to provide action guides and codes.

Applied Ethics: domain specific ethics (Business, biomedical; APA, engineering, etc.)

ETHICS EVOLUTION

Aristotle (384-322 BC) – proposed a theory of virtue

Socrates (469-399)

Siddhartha Gautama (563-480 BC)

Kant (1724-1804)

rightness of an action is determined by the character of the principle that a person chooses to act upon

ETHICS EVOLUTION

Bentham (1781) – Principle of utility – diapproves or approves of every action according to tendency to augment or diminish happiness

Mahatma Ghandi (1869 – 1948)

Martin Luther King

Nelson Mandela (1918-2013)

Fanon (1925-1961) African philosophy, humaneness

Generalisability of findings: the extent to which the sample used in the research project reflects the broader population of interest

Scientific Rigour (truth is accepted if there is sufficient evidence to support claims made through the research process. Such claims have to withstand the scrutiny of repeated testing)

Univesality and objectivity (explicit rules and systematic procedures)
- Research should be designed in a manner that allows any competent researcher to conduct a similar study and generate the same findings

Originality of research work: original ideas backed with appropriate evidence in a clear, logical and convincing argument that illustrates critical and analytical thinking.

Research Ethics therefore are:

1. A code of guidelines on how to conduct scientific research in a morally acceptable way.

2. Principles and standards that help researchers to uphold the value and standards of knowledge construction.

ETHICAL CONSIDERATIONS IN THE RESEARCH PROCESS

Ethical considerations come into play at six stages of research

1. Conceptualisation and design of the study (scientific merit, identify risks and ways to mitigate the risks)
2. When participants are recruited (the process of informed consent, right to privacy)
3. During the intervention or measurement procedure to which participants are subjected (management of risk)
4. In the release of results obtained
5. (protection of confidentiality and anonimity)
6. After the release of results (ensure that participants and communities involved in the research benefit)

ANOTHER WAY OF LOOKING AT RESEARCH ETHICS IS BY LOOKING AT UNETHICAL RESEARCH CONDUCT

- **Deception (issues of full disclosure)**
  - Withholding information about the aim of the study
  - Misleading participants about the risks inherent in participating in the study
- **Plagiarism**
- **Conducting research that does not have a scientific base (ill-formed problem statement)**
- **Lack of objectivity and integrity in the design and conduct of research**
  - Not identifying the methodological constraints of the study that determine the validity of the findings
  - Misinterpretation of results
  - Not providing details of theories and methods that might be relevant in the interpretation of research findings
- **Fabrication or falsification of data**
- **Not following the appropriate ascription of authorship to a publication**

ANOTHER WAY OF LOOKING AT RESEARCH ETHICS IS BY LOOKING AT UNETHICAL RESEARCH CONDUCT

- **Not respecting the right to privacy**
- **Not respecting the right to anonymity and confidentiality**
- **Not respecting rights of vulnerable groups**
  - Children
  - Mentally handicapped individuals
  - The aged
  - Prisoners
  - Illiterate
  - Those with low social status
- **Not having due consideration for the environment**

FUNDAMENTALLY RESEARCH ETHICS ARE:

- a way of conducting the research enterprise such that the three fundamental principles of research (respect, beneficence and justice) are upheld.
- Ethical research must conform with the national and international accords and prescripts.

Justice: researchers should not place one group of people at risk solely for the benefit another.

Risks and benefits should be distributed in an equitable manner when recruiting participancts

Respect

Respect for research participants (informed consent)

Respect for sponsors of research

Respect for communities where participants come from

Respect for knowledge and academic community

PRINCIPLES OF RESEARCH ETHICS

Benefits must be weighed against potential risk that a person might have by participating

Beneficence: **the researcher is responsible for the mental, physical and social wellbeing of the participant throughout the participation in the study.**

Research should only be justified if its conduct and result will be of benefit to the participants

How the community will benefit should be clear from the research protocol

DIFFERENCE BETWEEN CLINICAL AND SOCIAL SCIENCE RESEARCH

	Clinical Research	Social Science Research
Definition	A research study intended to test safety, quality, effectiveness of new and/or existing or old medicines, medical devices and/or treatment options, using human participants (SA – GCP Guidelines, 2006)	A systematic recording and analysis of data that may lead to generaliseable, principles and theories resulting in prediction and possibly management of behaviour and events in society.
Research activities	Invasive and non-invasive procedures that may include surgical untervention, removal of body tissues/ fluids, administration of chemical substances, observation, administration of questions etc.	Review of literature, review of data, interviews, focus groups, observatations, administration of survey instruments, or tests etc.
Phases or steps followed	Four phases	More or less eight phases (depending on research questions and design of the study)

PHASES OF RESEARCH: CLINICAL VS SOCIAL

CLINICAL TRIALS	SOCIAL RESEARCH
PHASE I: A new drug, vaccine or medical device is tested in a small group of healthy persons for the very first time. The aim is to determine the general safety, the correct dosage and negative effects.	**PHASE 1:** Problem identification
PHASE II: Clinical trials the new drug, vaccine or medical device in a larger group (several hundred people)	**PHASE2:** Problem definition
PHASE III : testing to several thousand people	**PHASE 3:** Development of a theoretical framework
PHASE IV: clinical trials done to several thousand people after the new drug, vaccine or medical drug has been registered and licensed for sale by the Medical Control Council	**PHASE 4:** Hypothesis formulation or literature review
	PHASE 5: Research Design
	PHASE 6: Data collection
	PHASE 7: Data analysis
	PHASE 8: Report writing and dissemination of findings

WHY BE CONCERNED WITH RESEARCH ETHICS?

1. **Professional Responsibility**
2. **To avoid reputational damage**
3. **Research can be harmful to:**
   - Participants
   - To researchers
   - To institutions
   - To research communities
4. **To avoid litigation**
   - In a scenario where a proposal is classified as Ethics Category 1 (exempt from Ethics and Biosafety Research Committee Review) liability and responsibility arising from decisions based on ethics are shouldered by the FRC and its members.

EVOLUTION OF RESEARCH ETHICS, CODES AND REGULATIONS: INTERNATIONAL LANDSCAPE

Berlin Code
(1900)
Much emphasis on Beneficence and Autonomy

Guidelines for Human Experimentation
(1931) Focus on therapeutic vs nontherapeutic informed consent

Nuremberg Code
(1947)

Declaration of Helsinki
(1964)

Belmont Report
(1978)

Council for International Organisations of Medical Science (CIOMS) Guidelines
(1982)

International Conference on Harmonisation
(1990)

NUREMBERG CODE

The judgement by the war crimes tribunal at Nuremberg Germany, laid down ten standards to which physicians must conform when carrying out experiments on human subjects.

Key principles in the Nuremberg Code:

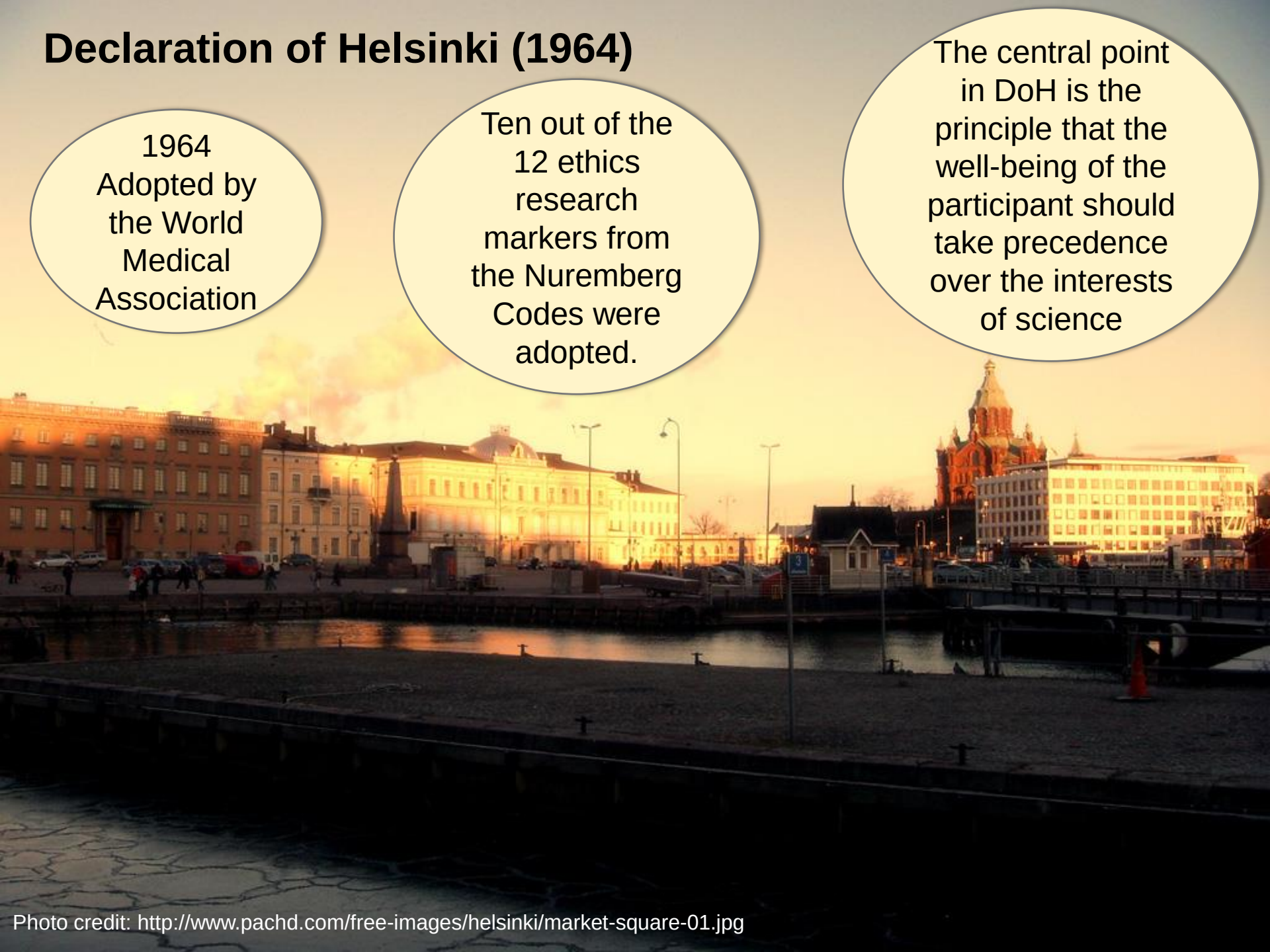
- Voluntary consent of the human subject – capacity to consent, freedom from coercion and an understanding of risks and benefits involved; and freedom to bring the experiment to an end.
- Minimisation of risk and harm.
- The science and design of the study must yield fruitful outcomes.

Declaration of Helsinki (1964)

1964 Adopted by the World Medical Association

Ten out of the 12 ethics research markers from the Nuremberg Codes were adopted.

The central point in DoH is the principle that the well-being of the participant should take precedence over the interests of science



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SOUTH AFRICAN HUMAN RESEARCH ETHICS REGULATIONS

Act No 108 of 1996 – The Constitution of the Republic of South Africa Section 12 (2)(b) & (c)

"*Everyone has the right to bodily and psychological integrity which includes the right (b) to security and control over their body and (c) not to be subjected t medical or scientific experiments without their informed consent*

Other rights guaranteed in the Constitution that are applicable to the rights of research participants include: right to dignity, privacy, access to health care

STAGES AND PROCESS OF INFORMED CONSENT

Stages of informed consent	Informed Consent Activities
Before the commencement of the study	❖ Assessment of the local culture ❖ Identification of risks and benefits before and after the study ❖ Pilot testing
At the beginning of the study	❖ Information is presented with the aid of support material to enhance understand of the research aims and objectives ❖ Risks and benefits of the study are presented ❖ Understanding is assessed
During the study	❖ Reinforce key ethical principles ❖ Address issues of concern

KEY ELEMENTS OF INFORMED CONSENT

- Description of research aims and objectives
- Description of potential risks
- Description of expected benefits
- Explanation of confidentiality and anonymity of participants
- Explanation of participants rights including the fact that participation is voluntary
- Explanation of issues relating to remuneration/compensation for injuries

WHAT MEMBERS OF THE RESEARCH ETHICS COMMITTEE LOOK FOR IN YOUR ETHICS PROPOSAL

WHAT THEY CHECK	HOW THEY CHECK IT
1. Respect and Dignity of participants	• Appropriate information to participants in a form and language they understand • They check that there is a fair and humane way by which consent will be obtained • They check the type and nature of questions that participants will be required to respond to • Check if the questions are culturally correct and sensitive to the value systems of the participants • Check that the rights of vulnerable persons are protected and South African regulations with respect to vulnerable participants are complied with
2. Privacy and confidentiality	• Check for a declaration that guarantees protection of the participant's privacy and confidentiality
3. Favourable balance of benefits and risks	• Check if proposal has outlined potential harm (psychologically, legally or economically), and measures that will be taken to ameliorate potential risks. • Check whether the direct benefit of the research has been

WHAT MEMBERS OF THE RESEARCH ETHICS COMMITTEE LOOK FOR IN YOUR ETHICS PROPOSAL

WHAT THEY CHECK	HOW THEY CHECK IT
Fair subject and community selection	❖ Research must not exclude a class of people who are likely to benefit from research participation or in whom the results of a specific kind of research are likely to be applied. ❖ The sampling plan of the research project must be checked for fair subject selection.
Professional competence and sufficient capacity	❖ A Principal investigator according to the GCP (SA) carries the primary responsibility for securing participants' safety and well being during the study.
Coercison, undue pressure and conflict of interest	❖ A researcher must disclose the source and extent of funding to research participants. ❖ Commercial affiliations or financial interests at the time of proposing and reporting the research must be disclosed.
Research involving minors and vulnerable persons	❖ The researcher should demonstrate an awareness of applicable national and international laws, regulations and codes (eg Act No 38 of **2005** The South African Children's

HOW TO SUBMIT A PROPOSAL FOR ETHICAL CLEARANCE

The proposal submitted for ethical approval should demonstrate that each of the following ethical aspects arenot only addressed, but are discussed in a logical and cogent fashion:

1. Respect and dignity of participants
2. Privacy and confidentiality
3. Balance of benefits and risks
4. Sampling plan – fair participant selection
5. Competence and capacity of researcher
6. Protocols and procedures followed in dealing with minors, vulnerable persons (if applicable)

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AUTHORAID

- **A global research community that provides resources and training for researchers in developing countries**
- **Supports developing country researchers with:**
  - Numerous documents and presentations on ‘best practices’ in writing and publication (500+)
  - Personal mentoring by researchers and professional editors
  - A discussion and question forum – on key topics including authoring skills & research and analysis
  - World wide training sessions
  - To register, go to www.authoraid.info/join_form
- **www.authoraid.info/**

BMJ: RESOURCES FOR AUTHORS

- Full-text resources providing tools for authors
- Topics range from how to submit an article for publication to a discussion of the publication process itself, including the peer review process, editorial policies and the BMJ style
- Resources are geared toward one publisher's journals
- Information is relevant for the submission of papers to numerous Scientific/Technical/Medical journals
- www.bmj.com/about-bmj/resources-authors

ELSEVIER PUBLISHING CAMPUS

- **Comprehensive tool with detailed sections on**
  - Research writing skills
  - Publishing in general
  - Peer review
  - Ethics
  - Resources for skills training
  - Note: search ‘early career researchers’ for useful documents
  - www.publishingcampus.com/skillstraining

EQUATOR NETWORK

- **The organization that aims to enhance the quality and transparency of health research has four useful toolboxes:**
  - Reporting guidelines: library for health research reporting
  - Authors: information for authors of research reports
  - Editors: resources for journal editors and peer reviewers
  - Developers: resources for developers of reporting guidelines
- **www.equator-network.org/library/**

ETITAGE INSIGHTS

- A multilingual learning/discussion platform where researchers, authors & publishers can learn about all aspects of scholarly publishing, stay updated about the latest trends and, and seek & receive expert advice
- Contains sections on manuscript preparation & publication process plus numerous up-to-date articles and a lists of events and training programs.
- Registration is required but free
- www.editage.com/insights/

EXPERT EDGE

- Sponsored by American Journal Experts, the site is a central resource for helpful information about writing and publishing scholarly manuscripts
- Contains documents on writing, editing, designing figures, style guides, choosing/submitting papers plus a glossary of English language terms
- Contains weekly editing tips, article of interest from the publishing world and a list of recommended resources.
- expertedge.aje.com/

RESEARCH4LIFE – AUTHORSHIP SKILLS MODULES

- **Modules developed to assist researchers in Research4Life program eligible countries; accessible to all. Includes presentations and exercises:**
  - How to read a scientific paper
  - How to write/publish a scientific paper
  - Intellectual property (copyright and plagiarism)
  - Strategies for effective writing
  - Web-bibliography
  - Authorship skills FAQs
  - www.research4life.org/training/

RECOMMENDATIONS FOR THE CONDUCT, REPORTING, EDITING AND PUBLICATION OF SCHOLARLY WORK IN MEDICAL JOURNALS

- Detailed information on how to write and edit for a biomedical publication
- Contains information on the application of the uniform requirements, responsibilities of one or multiple authors, peer review process, ethical issues in research, and privacy and confidentiality of research participants
- Also includes a section on preparation of a manuscript
- Maintained and regularly updated by the International Committee for Medical Journals and the recommendations have been adopted by many biomedical journals
- www.icmje.org/icmje-recommendations.pdf

WILEY-BLACKWELL: AUTHOR SERVICES

- Documents to assist authors in preparing and submitting publications
- Topics include: Find a Journal, Editorial policies, Author Resources (copyright, English language editing, ethics, etc.), Author Rights and Benefits and FAQs
- Designed to assist the submission of papers to this publisher
- Information is relevant for the submission of papers to numerous Scientific/Technical/Medical journals
- authorservices.wiley.com/

FOOTNOTES & BIBLIOGRAPHIES

CITING BIBLIOGRAPHIC AND ELECTRONIC RESOURCES

- **Contains links to several sites on:**
  - research and documentation online
  - Vancouver format
  - APA format
  - MLA format
- **Maintained by the Library Resource Center, John A. Burns School of Medicine, University of Hawaii/Manoa**
- **hslib.jabsom.hawaii.edu/subjguides/vresources.html**

(see Virtual Reference Tools contents at top of page)

DEMYSTIFYING CITING AND REFERENCING

- A tutorial designed for individuals to learn the principles of citing and referencing and how to avoid plagiarism
- Topics are divided into two major categories: about citing and referencing and how to cite references plus links to various reference styles including APA, Harvard, and Vancouver styles
- Developed by Monash University, Australia
- www.monash.edu/library/skills/resources/tutorials/citing

MENDELEY

- Free (basic version), easy-to-use bibliographic reference manager
- Via Elsevier, now a R4L partner
- Helps researchers collect, organize, cite, and share your research sources
- Need to have/download Word Plugin
- Can be downloaded to a laptop or your desktop from address below:
- www.mendeley.com/download-mendeley-desktop/

ZOTERO

- Free (open source), easy-to-use bibliographic reference manager
- Helps researchers collect, organize, cite, and share your research sources
- Can be downloaded from address below
- Uses various web browsers but is written for Mozilla Firefox.
- Also able to download from the link
- www.zotero.org/

INTELLECTUAL PROPERTY: COPYRIGHT & PLAGIARISM

ACADIA UNIVERSITY: 'YOU QUOTE IT, YOU NOTE IT!'

- Site is a 10 minute tutorial that covers the principal components of plagiarism
- Contains a series of graphical slides and examples geared toward what a student needs to know
- Includes yes/no questions that the participant answers
- library.acadiau.ca/sites/default/files/library/tutorials/plagiarism/

CROSSREF.ORG

- Crossref.org is a not-for profit project to help its members actively engage in efforts to prevent scholarly and professional plagiarism
- Project includes a Cross Check and other tools for checking for plagiarism with versions for publishers, libraries and researchers
- Most of the key STM journals participate
- Institutions must register/pay a minimal fee to access the database and tool
- crossref.org

DEPAUW UNIVERSITY: AVOIDING PLAGIARISM

- **Guide defines and describes plagiarism and contains ‘general guidelines’:**
  - Words you need to know
  - Types of plagiarism
  - Why students plagiarize
  - Case study
  - Ways to avoid plagiarism
  - Plagiarism and the Web
- **my.depauw.edu/admin/arc/W-center/plag.asp**

LIBRARIES: CITING SOURCES AND AVOIDING PLAGIARISM

- Overview of use of proper citations and how to avoid plagiarism
- 'Plagiarism Awareness' section covers warning signs, what to cite and how to cite
- Also includes Universities' policies
- library.duke.edu/research/plagiarism/

INDIANA UNIVERSITY: HOW TO RECOGNIZE PLAGIARISM

- Developed for students at Indiana University but…
- Can be used for any non-profit educational purpose; can print and distribute the tutorial
- Includes overview, cases, examples, practice and a test plus resources
- www.indiana.edu/~istd/

UNIVERSITY OF CALIFORNIA/DAVIS: AVOIDING PLAGIARISM

- **A two page summary of plagiarism geared toward students that includes**
  - What is plagiarism?
  - Why be concerned about plagiarism?
  - How to cite sources
  - Guidelines for avoiding plagiarism
  - Examples
- **sja.ucdavis.edu/files/plagiarism.pdf**

UNIVERSITY OF NORTH CAROLINA/CHAPEL HILL: PLAGIARISM

- **A handout for students that explains what plagiarism is and outlines steps students can follow to avoid plagiarizing:**
  - What is plagiarism?
  - What about common knowledge?
  - What about paraphrasing?
  - Steps to avoid plagiarism
- **writingcenter.unc.edu/handouts/plagiarism/**

PUBLISHING/EDITING/ETHICAL ISSUES/PEER REVIEW

COMMITTEE ON PUBLICATION ETHICS (PROMOTING INTEGRITY IN RESEARCH PUBLICATION)

- COPE provides advice to editors and publishers on all aspects of publication ethics and, in particular, how to handle cases of research and publication misconduct.
- Included are the Code of Conduct and Best Practice Guidelines for Journal Editors, Flowcharts on how to handle problems, Cope guidelines, sample letters and a database of cases.
- publicationethics.org/

COUNCIL OF SCIENCE EDITORS: EDITORIAL POLICIES

- Covers a number of relevant topics including promoting integrity in research, organizational policies and editorial practices
- Free access to ‘CSE's White Paper on Promoting Integrity in Scientific Journal Publications’
- Useful for editors and prospective authors
- www.councilscienceeditors.org/resource-library/editorial-policies/

COUNCIL OF SCIENTIFIC EDITORS: SAMPLE CORRESPONDENCE FOR EDITORS

- Contains sample correspondence to specific situations that journal editors may face
- Topics include manuscript overlap, figure duplication, authorship disputes, clinical trials not registered, undisclosed conflict of interest, rejection of manuscript, etc.
- www.councilscienceeditors.org/resource-library/editorial-policies/sample-correspondence-for-an-editorial-office/

WHITE PAPER ON PROMOTING INTEGRITY IN SCIENTIFIC JOURNAL PUBLICATIONS, 2012 UPDATE

- **Discusses:**
  - Roles and Responsibilities in Publishing
  - Authorship and Author Responsibilities
  - Reviewer Roles and Responsibilities
  - Sponsor Roles and Responsibilities
  - Relationship between Editors and Publishers
- www.councilscienceeditors.org/resource-library/editorial-policies/white-paper-on-publication-ethics/

COUNCIL OF SCIENTIFIC EDITORS: REFERENCE LINKS

- Site contains numerous links to useful sites for science researchers
- Topics include animals, aquatic resources, copyright and patents, ethics, listservs, health information, measurement, medical internet plus many more
- many links have brief annotations
- www.councilscienceeditors.org/resource-library/society-reference-links/

ETHICAL GUIDELINES FOR PEER REVIEWERS

- Document sets out the basic principles and standards for peer reviewers
- Will provide helpful guidance to researchers
- Will be a reference for journals and editors in guiding reviewers
- Sponsored by the Committee on Public Ethics
- Is a downloadable PDF
- publicationethics.org/files/Ethical_guidelines_for_peer_reviewers_0.pdf

ETHICAL ISSUES - ELSEVIER PUBLISHING CAMPUS

- **This section of the EPC focuses on ethical issues; sub-sections include:**
  - Authorship
  - Plagiarism
  - Conflict of Interest
  - Research fraud
  - Slicing of large study/Duplicate submissions
  - www.publishingcampus.com/ethics

FAME EDITORIAL GUIDELINES

Developed by the Forum for African Medical Editors

Focuses on three groups for the publishing of a medical journal: editors, reviewers and authors

Discusses how each group should conduct their work

www.who.int/tdr/publications/documents/fame-editorials.pdf?ua=1

HOW TO HANDLE AUTHORSHIP DISPUTES

- **Resource includes:**
  - discussion of authorship disputes
  - advice on preventing authorship problems
  - suggestions on what to do if authorship problems occur
  - definitions of important terms relating to authorship
- **Developed by Tim Alpert and Elizabeth Wager**
- **Available as a PDF file at:**

publicationethics.org/files/u2/2003pdf12.pdf

OFFICE OF RESEARCH INTEGRITY (ORI)

- Sponsored by the U.S. Public Health Service, ORI promotes integrity in biomedical and behavioral research
- For 4000 institutions worldwide, the organization monitors investigations of research misconduct
- Site contains links to guides and policies on responsible conduct of research
- Valuable resource for ethical research
- https://ori.hhs.gov/

PEER REVIEW - ELSEVIER PUBLISHING CAMPUS

- **This section of the EPC focuses on peer review; sub-sections include:**
  - Peer review key principles (interactive course and online lecture)
  - Peer review in Asia
  - Why get involved/How to become a reviewer
  - Ethical responsibilities for reviewers
  - www.publishingcampus.com/peerreview

PEER REVIEW: THE NUTS AND BOLTS

- For early career researchers
- Discusses how the peer review process works, limitations of peer review and the role of peer review in the scientific community
- Published by the Voice of Young Science (VoYS) Network
- Is a downloadable pdf at:

www.senseaboutscience.org/data/files/resources/99/Peer-review_The-nuts-and-bolts.pdf

BEST PRACTICE OF SCHOLARLY PUBLISHING

- Produced by the Committee of Publication Ethics, Directory of Open Access Journals
- Outlines the principles of transparency that every journal should follow
- Topic discussed include peer review process, governing body, editorial team, author fees, copyright, research misconduct, conflict of interest, access and more
- doaj.org/bestpractice

PREDATORY PUBLISHERS

- A detailed webpage on this unfortunate byproduct of Open Access publishing
- Contains information on criteria for determining predatory OA publishers, list of hijacked journals, list of misleading metrics, list of predatory journals and ways to identify if predatory OA journal publishers plus related articles on this topic
- Part of an extensive Open Access/Scholarly Communication website hosted by the University of Witwatersrand, South Africa

libguides.wits.ac.za/openaccess_a2k_scholarly_communication/Predatory_Publishers

REASONS FOR ACCEPTING OR REJECTING PAPERS

- Links to two listing of why papers are accepted or rejected
- Written by several Elsevier Journal editors
- www.elsevier.com/connect/8-reasons-i-accepted-your-article
- www.elsevier.com/connect/8-reasons-i-rejected-your-article

RESEARCH ETHICS ONLINE TRAINING

- Is adapted from an e-Learning course and resource package produced by WHO
- Includes 14 individual modules that take 15-30 minutes to complete
- Each module includes a quiz
- Adapted by Global Health Trials
- https://globalhealthtrials.tghn.org/elearning/research-ethics/

SCHOLARLY OPEN ACCESS

- Ongoing ‘critical analysis’ blog about unscrupulous practices in the open-access publishing world
- Contains lists of ‘stand-alone’ publishers and potential or possible ‘predatory’ scholarly open-access publishers
- Includes a subject list of various ‘unethical’ issues
- Developed/updated by Jeffrey Beall, Auraria Library, University of Denver, Colorado
- scholarlyoa.com/

READING SCIENTIFIC PAPERS

HOW TO READ A SCIENTIFIC ARTICLE

- Focuses on how to understand the content of a scientific article: skim the article and identify its structure; distinguish main parts; generate questions/be aware of your understanding; draw inferences; take notes as you read
- Written by Mary Purugganan & Jan Hewitt, Rice University
- www.owlnet.rice.edu/~cainproj/courses/HowToReadSciArticle.pdf

REVIEW A SCIENTIFIC JOURNAL ARTICLE

- Focuses on reading an article and writing a review
- Notes a series of actions to use when reading the article
- For the review, discusses the format, organization and how to assess what you write
- Part of the Duke University Writing Studio
- twp.duke.edu/uploads/media_items/scientificarticlereview.original.pdf

RESEARCH RESOURCES

COLLABORATION & TEAM SCIENCE: A FIELD GUIDE

- A PDF guide from the National Institutes of Health (USA) that discusses the step-by-step process for build a successful team
- Also includes agreement and tenure track templates and how to evaluate contributions
- https://ccrod.cancer.gov/confluence/download/attachments/47284665/TeamScience_FieldGuide.pdf?version=2&modificationDate=1285330231523&api=v2

DIGITAL TOOLS FOR RESEARCHERS

- A list of online “web 2.0″ tools, designed for researchers including online material about:
  - Using ‘the crowd’ for research (crowdsourcing, surveys)
  - Scientific social networking
  - Sharing Science (data, figures, code, samples)
  - Lab management tools
  - Paper writing and publishing tools
  - Find, organize and discuss papers
- connectedresearchers.com/online-tools-for-researchers/

GLOBAL FORUM FOR HEALTH RESEARCH

- Aims to improve the allocation of research funds and facilitates collaboration among partners, both in the public and private sectors
- Contains the ‘10/90 Report’ (an estimated 10% of global biomedical research funds are used for research into 90% of the world's health problems), the Annual Forum on Health Research, and Communicating Health Research
- Also contains a valuable ‘Links’ page of organizations with an interest in health research and communication
- www.globalforumhealth.org/

A STUDENT'S GUIDE TO RESEARCH

- Detailed list of step by step points for doing research
- Invaluable for researchers on many levels although somewhat dated
- Written by Dennis S. Bernstein
- PDF file that can be downloaded
- ieeecss.org/CSM/library/1999/feb1999/03-studentguidetoresearch.pdf

SUBMISSION OF RESEARCH PAPERS

SOCIETY: PUBLISHING YOUR RESEARCH 101

- **Includes 3 brief (4-6 minute) videos:**
  - How to write a paper to communicate your research
  - Writing your cover letter
  - Selecting peers to suggest as reviewers
- **Also has links to videos on related topics (improving your writing skills, how to choose your area of research, what have you done when your article is rejected)**
- pubs.acs.org/page/publish-research/overview.html

HOW TO TARGET A JOURNAL THAT IS RIGHT FOR YOUR RESEARCH (SCIDEV.NET)

- **Resource includes information on:**
  - pointers for avoiding predatory journals
  - an explanation of the open access model
  - cautions regarding impact factor
  - questions to consider regarding a journal's audience
  - advice for developing a communication strategy
- **www.scidev.net/global/publishing/practical-guide/target-journal-right-research-communicate-publish.html**

INSTRUCTIONS TO AUTHORS IN THE HEALTH SCIENCES

- Links to websites that provide instructions to authors for over 6,000 journals in the health and life sciences
- All links are to ‘primary sources’ - to publishers and organizations with editorial responsibilities for the titles
- Access is via title/alphabetical listing or subject keyword or journal title searching
- Maintained by the Raymond H. Mulford Library, Health Sciences Campus, University of Toledo, U.S.
- mulford.utoledo.edu/instr/

JANE (JOURNAL/AUTHOR NAME ESTIMATOR)

- A tool for assisting in the selection of journal to submit to or to locate similar research articles or for an editor to find reviewers
- In a box, users enter title and or abstract of his or her paper
- Click on either *Find journals*, *Find authors* or *Find articles*.
- Search terms are matched against articles in the Medline database
- Also available is a keyword search tool
- jane.biosemantics.org/

JOURNAL SELECTOR (ENGLISH EDITING FOR SCIENTISTS)

- Resource uses semantic technology to help identify the proper journal(s) for the publication of specific research
- In the Journal Selector box, enter an abstract or sample text
- Results are a list of journals that publish in related areas
- Searches results are based on such factors as publication frequency, Impact Factor or publishing model, including open access
- www.edanzediting.com/journal_selector

WRITING SKILLS

STRUCTURED ABSTRACT

PHRASEBOOK (UNIVERSITY OF MANCHESTER)

- An academic writers' general resource for research papers and dissertations.
- Contains several practical 'subject' sections with examples including: being critical & cautious, classifying & listing, compare and contrast defining terms & trends, giving examples, signaling transition and writing in the past.
- www.phrasebank.manchester.ac.uk/

ACADEMIC WRITING IN ENGLISH

- **Site focuses on:**
  - **Cohesion -** the mechanisms to make a text clear, logical, unified and reader-friendly.
  - Aspects of **grammar** which can cause difficulties to even highly-proficient writers.
  - **Punctuation**, the symbols which help to organize and clarify texts.
  - Considerations of **style** which affect the word choice and structure of academic texts.
  - Developed by the Finnish Virtual University
  - www.helsinki.fi/kksc/language.services/AcadWrit.pdf

DUKE UNIVERSITY: DUKE THOMPSON WRITING PROGRAM

- **Contains a series of useful 'resources':**
  - Academic writing
  - ESL (English as a Second Language) resources
  - Working with sources
  - Genres of writing including abstract, annotated bibliography, literature review, research and grant proposal and scientific writing
  - Writing for specific resources including science
  - Grammar and reference
- **twp.duke.edu/twp-writing-studio/resources**

AUTHORS AND TRANSLATORS OF SCIENTIFIC ARTICLES TO BE PUBLISHED IN ENGLISH

- Project is to make international research articles and other scientific publications more complete, concise and clear
- Contains generalized guidelines for authors, translators and editors
- Available via the Internet or downloadable as PDFs; translated into 13 languages
- Developed by the European Association of Scientific Editors
- http://www.ease.org.uk/publications/author-guidelines-authors-and-translators/

EDITING YOUR OWN PAPERS & PROPOSALS

- Contains numerous ‘basic checklists’ that will help the editing of papers
- Checklists include: content & organization, crafting the document, common writing problems, pointers for writing readability, tips for writing more concise, suggestions for non-native speakers and other resources
- Developed by Barbara Gastel, AuthorAID & Texas A&M University
- http://www.authoraid.info/en/resources/details/595/

EFFECTIVE MEDICAL WRITING

- Summarizes the basic structure of a paper – introduction, methods, results and discussion
- Notes types of scientific papers - original articles, case reports, technical notes, pictorial essays, reviews, commentaries and editorials and types of scientific papers
- Effective Medical Writing. Peh WCG &, NG K H *Singapore Medical Journal* 2008 49(7) 522 smj.sma.org.sg/4907/4907emw1.pdf

EXEMPLAR: WORDS IN CONTEXT

- Tool lets you see how a particular term or phrase is used in peer-reviewed, published literature
- Specific terms (e.g. developing countries) are typed into a keyword search box
- Searches can be limited by keyword subject or journal title
- Displayed results are examples of how the term is used in specific journal articles
- While the website gives you ‘examples’, you are not able to access the full-text journal articles from the links
- Tool has been developed by Springer Publishing
- www.springerexemplar.com

GUIDANCE FOR THE DESCRIPTION FOR ANIMAL RESEARCH IN SCIENTIFIC PUBLICATIONS

- Tips for interpreting, evaluating and replicating findings from animal research data - for scientific publications
- Published by the National Academies Press (USA)
- Can be downloaded free as a PDF file
- books.nap.edu/catalog.php?record_id=13241

TECHNICAL PERIODICALS AND CONFERENCES

- **28-page guide from the professional association developed by IEEE**
- **Topics include:**
  - ethics in scientific publication
  - deciding whether to present at a conference or write a journal article
  - identifying conferences and journals suitable for one's word
  - developing a manuscript, revising, and peer review
- **www.ieee.org/publications_standards/publications/authors/author_guide_interactive.pdf**

SCIENTIFIC WRITING FOR AGRICULTURAL RESEARCH STUDENTS

- 2012 edition of a training resource manual
- Developed by Technical Centre for Agriculture and Rural Cooperation
- Manual is divided into chapters on communication in science, choosing a journal for publication, writing a research paper, scientific/English style, statistics and tables, citations and references
- www.authoraid.info/en/resources/details/645/

ABSTRACT: AN ESSENTIAL TOOL FOR RESEARCH

- Structured Abstracts often are required for the submission of research proposals, reports and presentations (and follow the procedure for writing a scientific paper)
- Key components are: objectives, methods, results and conclusions, summary and references - which are explained in the site with links to examples and a bibliography
- Developed by the Research Section of the Medical Library Association (U.S.A)
- www.mlanet.org/p/cm/ld/fid=517

TEN SIMPLE RULES FOR WRITING SCIENCE (PLOS – 30/04/2015)

- Excellent overview on how to write science; useful for writers and lecturers
- Each basic rule (e.g. Keep it simple, Use present tense, Avoid adjectives & adverbs) contains a brief explanation of the concept
- http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004205#sec002

TOOLKIT FOR MAKING WRITTEN MATERIAL CLEAR AND EFFECTIVE

- 11-part Toolkit provides a detailed and comprehensive set of tools to help writers make written material in printed formats easier for people to read, understand, and use
- Includes sections on guidelines for writing and design, how to collect and use feedback from users, using readability formulas and how to revise documents
- Developed by the U.S. Department of Health and Human Services
- https://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/index.html?redirect=/WrittenMaterialsToolkit/

U.S. GOVERNMENT PRINTING OFFICE STYLE MANUAL (2008)

- Commonly known as the GPO style manual
- Is a style guide for government publications
- Manual serves as a general reference work
- Can download the manual or single chapters – as PDF files
- https://www.gpo.gov/fdsys/search/pagedetails.action?granuleId=&packageId=GPO-STYLEMANUAL-2008&fromBrowse=true

JOURNALS
- ELSEVIER PUBLISHING CAMPUS

- **This section of the EPC focuses on research writing skills; sub-sections include:**
  - How do editors look at your paper
  - Preparing a manuscript
  - Structuring an article correctly
  - Using proper manuscript language
  - www.publishingcampus.com/writingskills

WRITER'S HANDBOOK WRITING CENTER/UNIVERSITY OF WISCONSIN/MADISON:

- The Writer's Handbook contains guidelines about:
  - Stages of the writing process
  - Common types of writing assignments
  - Grammar and punctuation
  - Improving your writing skills
  - Citing references in your paper
- While not necessarily geared toward scientific writing, the material is quite useful
- writing.wisc.edu/Handbook/

WRITING FOR PUBLICATION IN VETERINARY MEDICINE

- Online guide from Wiley-Blackwell
- Covers a review of good science, types of articles, selecting a journal, writing an article, writing for English for readability and comprehension, submitting your manuscript, understanding peer review and editorial process and publication ethics
- Authored by Mary Christopher (University of California, Davis) and Karen Young (University of Wisconsin, Madison)
- www.wiley.com/WileyCDA/Section/id-612222.html

WRITING/TECHNICAL & SCIENTIFIC

- **Contains links to several sites on:**
  - Citing bibliographic & electronic sources
  - Writing a literature review
- **Also contains links to sites on:**
  - Preparing a poster
  - Presentation skills
  - Tutorials for searching on the Internet
  - Reading/evaluating literature
  - Statistics & epidemiology
- **Maintained by the Library Resource Center, John A. Burns School of Medicine, University of Hawaii/Manoa**
- **hslib.jabsom.hawaii.edu/subjguides/vresources.html**

(see Virtual Reference Tools contents at top of page)

THANK YOU