Guidance for the Use of Stored Data and Biological Specimens in Human Research

Ministry of Public Health
Department of Research

Revision 1-2014

Revision 2-2019

Table of Contents

Guidelines for the Use of Stored Data and Biological Specimens in Human Research activities

Introduction

Human biological materials have been and continue to be invaluable resources for a wide variety of research activities. Human biological materials have long been studied by researchers to increase knowledge about human diseases and to develop better means of preventing, diagnosing, and treating these diseases.

Researchers and clinical investigators relay on the availability of stored human biological materials as well as the willingness of individuals to participate in research protocols by donating blood, tissue, or DNA samples to research. This ongoing process raises a number of ethical issues. This necessitates a distinct policy to facilitate proper management of these activities.

Reason for the policy

Research often involves the use of data and/or biological specimens (materials). Repositories allow materials and data to be shared by investigators and accessed for multiple research projects, including those that were not conceived at the time of data/specimens collection. Such use obliges research investigators and Institutional Review Boards (IRBs) to consider the rights and welfare of the individuals who provided specimens or from whom information was obtained in the past are no less deserving of protection than are prospective research subjects. The research use of existing samples or data without the ability or intent to identify the donors may carry minimal risk to the donors. However, when these subjects can be identified, conflicts may arise between their rights and the scientific benefits that can be obtained from studying their stored samples.

The guidelines provided in this policy are intended to promote the goals of improving health through biomedical research while protecting the rights and welfare of those individuals who contribute to human knowledge through the donation of their biological materials. Such guidelines, while seeking to protect patient confidentiality and autonomy, are also developed to ensure that appropriate access for legitimate research purposes is maintained.

Policy application

This guidance is for any person or entity covered by the Ministry of Public Health's Basic Policy and that conducts human subjects research that either creates or uses repositories, databases or other collections of data and/or biological specimens. This Policy will be reviewed and revised as needed or every three years.

Definitions

Most human biological specimens come from samples collected for diagnostic or therapeutic procedures, but other sources can include autopsies, volunteer donors, or materials collected and shared by other researchers.

In this policy, the term “human biological samples” encompasses a full range of human specimens derived from living humans, cadavers, embryos or fetal tissues.

Including:

• Sub-cellular structures such as DNA or RNA

• Cells or tissues from any part of the human body

• Organs such as liver, bladder, heart, kidney, and placenta), etc.

• Gametes (sperm and ova)

• Embryos and fetal tissues

• Bodily waste such as teeth, hair, nail clippings, urine, feces, and sweat

• Blood and blood fractions: plasma, serum, buffy coat, red blood cells

• Saliva and buccal cells

Each specimen of human tissue may be stored in multiple forms, such as slides, paraffin blocks. Formalin-fixed, frozen, tissue culture or extracted DNA. Individual collections of human biological materials generally fall into the following categories:

1- Large tissue banks, repositories, and core facilities,

2- Materials collected as part of longitudinal or cross-sectional studies,

3- Tailored collections for research studies requiring unique tissue collection,

4- Pathology specimens, initially collected for clinical purposes,

5- Newborn screening tests accumulating in various laboratory sites,

6- Forensic DNA banks,

7- Organ banks,

8- Blood banks,

9- Sperm, ovum, and In-Vitro fertilization, and

10- Individual investigators' collections.

Bank or Repository: A collection of human data and/or tissue/specimens collected and maintained for future research purposes. When research of the stored data and/or specimens may involve human subjects, the bank should have written plans for distributing the stored data and/or specimens to other research groups to ensure that research uses either have been approved or granted an exemption by an IRB or that the research does not involve human subjects.

Research samples are the collection of human biological materials provided to investigators by repositories. Such materials can be categorized into three types:

(1) **Coded samples**-sometimes termed "linked" samples- are those supplied from identified specimens by repositories to recipient investigators with a code or other means of indirectly identifying subjects.

(2) **Identified samples** are those supplied with information such that the identity of the subject is or may readily be ascertained by the recipient investigator or associated with the specimen.

(3) **De-identified Material**: (also called "unidentified" or "unlinked" samples) are those in which the identity of the subject cannot readily be ascertained by any investigator or associated with the specimen because the samples are stripped of all links to identifying information.

Materials are not considered de-identified if the researchers know that the materials are supplied with information such that the identity of the subject is or may readily be ascertained by the investigator or associated with the specimen.

Materials: Data, films, biological samples, or other recorded information that may be useful for research. Examples include vials of bold, medical records, tumor specimens, scans, and videotapes of interviews.

Recipient Investigator: A member of a research team who receives data and/or tissue/specimens from a repository for a single and defined research purpose under an approved protocol or as otherwise permitted by this policy.

Research: A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to general knowledge.

Human subject: A living individual about whom an investigator conducting research obtains (a) Data through intervention or interaction with the individual; or (b) Identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, vein puncture) and manipulations of the subject or the subject's environment that are performed for research purposes.

Interaction includes communication or interpersonal contact between investigator and subject.

Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

The following research activities are <u>not considered</u> to involve human subjects: the collection and study of:

(1) samples from deceased individuals **if** the materials do not contain private and identifiable information about living individuals. However, if genetic information about deceased individuals may represent private and identifiable information about the living relatives of the deceased individual, then it is considered human subject research.

(2) specimens or data that are available from commercial or public repositories or registries where the materials do not contain private and identifiable information about living individuals.

(3) established cell lines that are publicly available to qualified scientific investigators where the materials were obtained without interaction or intervention with the donor for research purposes and where the samples do not contain private and identifiable information about living individuals., and

(4) self-sustaining, cell-free derivative preparations including viral isolates or cloned DNA where the materials were obtained without interaction or intervention with the donor for research purposes and where the samples do not contain private and identifiable information about living individuals.

Exempt Research: means research involving human subjects that is exempt from Institutional Review Board review and approval. This includes research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these resources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

This policy permits investigators to access existing stored specimens and then use them in research without seeking the consent of the source provided the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Ministry of Public Council of Health's basic policy: governs research that is conducted on human subjects in the state of Qatar. It describes when a project requires review by an Institutional Review Board (IRB), the informed consent of research subjects, and institutional assurances of compliance with the regulations are required.

Policy outlines

1. The non-exempt research use of stored identified or coded specimens or data, where the data collected are private and the identity of the subject is or may readily be ascertained by the investigator or associated with the information, must receive prospective and continuing IRB review and approval. This includes research non-exempt protocols where the remaining research activities are limited to 1) data analyses, and 2) the subsequent research use of specimens or data previously collected under terminated protocols.

2. The research use of stored coded samples where the data collected are private but the identity of the subject cannot readily be ascertained by the investigator or associated with the information does not involve human subjects and does not require IRB review and approval. Before receiving such samples, researchers may contact their IRB or the Department of Research (DR) at the Ministry of Public Health for guidance.

3. The research use of stored, samples where the data collected are not private or the identity of the subject cannot readily be ascertained by the investigator or associated with the information does not involve human subjects and does not need prospective IRB review and approval. Questions about whether research involves human subjects should be submitted in writing to an IRB or to the DR at the Ministry of Public Health for a determination.

Implementation

I. Research Utilizing Materials from Repositories Requiring IRB review

• Private identifiable data or biological specimens stored in clinical, historical or other collections are used for research.

• Private identifiable information is seen by the investigator for research purposes.

• Materials are withdrawn from repositories for research purposes where the materials are associated with private information.

• Research involving previously coded materials become individually identifiable (e.g., an investigator learns the identities of the sources of coded biological samples or data sets previously considered anonymous).

• Excess individually private and identifiable materials are collected as part of the single IRB-approved protocol and are used for a subsequent research project or secondary use not known when the materials were collected.

Research Exemption Determination

Research involving only coded materials will not be considered human research by the IRB (as indicated in the definition, above), and hence will not require IRB review when either of the following are met:

a. Information is not collected about living individuals.

b. Information is collected about living individuals, but the information collected was neither:
   a. Collected through interaction or intervention with the individual; NOR

   b. Private and identifiable information.

Determination regarding whether the research involving data/specimens involve human subjects may be made by IRB members or DR staff or by an individual with appropriate training and knowledge of the requirements. Principle Investigators should be aware that in some cases, journals or funding agencies may require documentation that the IRB, or someone other than the research investigator has determined the research involving the data/specimens was not subject to IRB oversight.

II. Criteria for Exemption from Review

It is the policy that, when an identifiable individual is the subject of research, then IRB approval of the study is required unless the research is exempt. There is one common circumstance, under which research with human biological materials from living individuals may be exempt for IRB review, consent requirements, and other protections, when the samples exist and information is recorded by investigator in such a manner that sources cannot be identified either directly or through identifiers linked to the sources.

The term exist means any materials that already have been collected-that is, materials that are "on the shelf"-at the time the research is initiated, whether or not collected for previous research purposes. Existing samples are thus differentiated from samples to be collected as a part of the research protocol in question. The determination that a research involving human subjects is exempt is made by institutional officials such as the IRB or Department of Research at the Ministry of Public Health.

When an investigator proposes to create unlinked samples from identifiable materials already under his control, the investigator may consult an IRB (or other designated officials at the investigator's institute) to determine that (1) the process used to unlink the samples will be effective, and (2) the unlinking of the samples will not unnecessarily reduce the value of the research.

Institutions should have a process for reviewing exempt research to verify the project meets exemption criteria and ensure that ethical standards are met.

The research use of existing unidentified or unlinked samples is generally does not involve human subjects and therefore is not subject to the requirements for prospective IRB review and approval.

III. Responsibilities of recipient investigators utilizing materials stored in repositories

Investigators wishing to obtain stored identifiable or coded samples or data from a repository must abide by the operating and distribution conditions specified by the repository. Investigators must use the materials solely for the purpose indicated in the application to the IRB and/or repository. This need not, but may, include full review and approval of the research by an IRB at the recipient's organization.

Research involving stored identifiable or coded samples must receive prospective and continuing IRB approval or an exemption determination when that research involves human subjects.

For review of research involving human subjects the investigator must submit a written request (i.e., a memorandum or protocol) to the IRB which includes the following;

1. The nature of the proposed research including a complete description of the samples or data;

2. A justification for retention of the identities or codes of the sources of samples or data, and, in the case of codes, a description of the ease or difficulty with which linkage can be made between the code and the source, and a description of who can make the linkage;

3. A description of the extent to which confidentiality of research data will be maintained;

4. The process of informed consent to be used, if any and the informed document to be utilized, if any.

5. A description on how the samples, specimens and /or data will be stored; how they will be tracked; what will happen to the samples/specimens/data at the completion of the protocol; what circumstances would prompt the Principle Investigator to report to the IRB loss or destruction of samples.

Upon IRB approval, a continuing IRB review and approval of the research must take place at least annually for non-exempt research.

Research protocols that require full IRB review for their initial reviews generally require it for their continuing reviews.

An IRB may use the expedited review procedure to review research activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories listed in the basic policy.

III-A Informed Consent Required for the Use of Materials

Consent for the use of materials stored in repositories must be consistent with the requirements noted in the Institutional Review Board policy. The IRB shall approve the use of such a consent method for the future research when the research aim of the individual research project is consistent with the types of research described to the subject-donor at the time the material was collected.

1. Waiver of Consent

Prior consent and authorization for use of the material in future research may be waived by the IRB in accordance with the Ministry of Public Health regulations and institutional IRB policy.

The IRB may waive informed consent by finding and documenting that all of the following four conditions have been met:

• The research involves no more than minimal risk;

• The waiver will not adversely affect the rights and welfare of the subjects;

• The research could not particularly be carried without the waiver; and

• Whenever appropriate, the subjects will be provided with additional pertinent information after participation.

2. Re-Consent

Re-contacting of donor-subjects for new consent may be required by the IRB when any of the following conditions apply:

a) The use of the material is not consistent with the original purpose noted in the consent form used at the time the material was originally collected, or

b) The use of the material falls out of society's mainstream acceptance; or

c) The individual donating the material reaches the age of maturity or otherwise gains or recovers legal competence, and the materials were stored by the donor-subject during his/her childhood.

If the IRB requires new informed consent, and the original informed consent does not include the donor-subject's permission for future contact, the materials cannot be distributed for new research projects.

3. Consent Not Required

Informed consent is not required for use of the materials when the use of the materials does not involve research, the research does not involve human subjects, or the research involves human subjects but is exempt.

III-B Accessing Materials for Research from Repositories

1. Attestation and Documentation of IRB Review of Projects

Investigators should be prepared to provide documentation of IRB review, approval or exemption determination to the Principle Investigator or other person operating the repository when requesting to access or obtain materials.

2. Use of Coded Materials

Investigators wishing to withdraw coded materials from repositories should be knowledgeable as to whether or not the repository requires review of the project by an IRB. Documentation of IRB review may be required for publication in certain journals.

The release of coded materials that retain a link (code) to identifiable information about the donor-subject may require that the Principle Investigator of the repository assess that the proposed research is consistent with the scope of research described in the consent/authorization signed by the donor-subject at the time of collection.

IV. Issues to Consider in the Research Using Stored data or tissues

The Ministry of Public Health provides the following guidance concerning operation of human cell repositories under the regulations for the protection of human subjects. The guidance assumes that repository activities include nonexempt human subjects' research as defined under the Ministry of Public Health regulations:

1. Operations of the repository and its data management related to non-exempt research involving human subjects should be subject to oversight by an **Institutional Review Board (IRB)** convened under an applicable Ministry of Public Health-approved Assurance of Compliance. This IRB should review and approve a protocol specifying the conditions under which data and specimens may be accepted and shared, and ensure that the regulatory criteria for approval are met. The IRB should also review and approve a sample collection protocol, informed consent process, when required, and informed consent document, when required, for distribution to tissue collectors and their local IRBs. When appropriate to ensure the protection of human subjects, a **Certificate of confidentiality** may be obtained to protect confidentiality of repository specimens and data.

2. Collection of data and specimens for non-exempt research involving human subjects should be subject to oversight by local IRBs convened under applicable Ministry of Public Health-approved Assurances.

3. Written informed consent should be obtained from each donor-subject in accordance with the Ministry of Public Health regulations. Included among basic elements of informed consent should be a clear description of (i) the purpose of the research to be conducted; (ii) the procedures involved in the research; and (iii) the extent to which confidentiality will be maintained.

4. Informed consent information describing the nature and purposes of the research should be as specific as possible.

5. Where human genetic research is anticipated, informed consent information should include information about the consequences of DNA typing (e.g., regarding possible paternity determination), when appropriate.

6. Informed consent process and informed consent documents may not include any exculpatory language through which subjects are made to waive or appear to waive any legal rights.

7. Ministry of Public Health recommends that the repository develops a sample collection protocol and informed consent document for distribution to collector-investigators and their local IRBs.

8. A written submittal agreement for collector-investigators should require written informed consent of the donor-subject utilizing an informed consent document approved by the local IRB, when required by regulations. It should also contain an acknowledgment that collector-investigators are prohibited from providing recipient-investigators with access to the identities of donor-subjects or to information through which the identities of donor-subjects may readily be ascertained, when this is a part of the distribution protocol.

9. A written agreement for recipient-investigators should include the following, when appropriate:

“recipients acknowledge that the conditions for the use of this research material are governed by the institutional repository Institutional Review Board (IRB) in accordance with the Ministry of Public Health regulations. Recipient agrees to comply fully with all such conditions and to report promptly to the repository any proposed changes in the research project and any unanticipated problems involving risks to subjects or others. Recipient remains subject to applicable Qatari laws or regulations and institutional policies which provide additional protections for human subjects. The research material may only be utilized in accordance with the conditions stipulated by the repository IRB. Any additional use of this material requires prior review and approval by the repository IRB and, where appropriate, by an IRB at the recipient site, which must be convened under an applicable Ministry of Public Health-approved Assurance”.

10. **When appropriate** the Ministry of Public Health recommends that a Certificate of Confidentiality be obtained to protect confidentiality of human repository specimens and data.

V. Socio-Cultural Considerations for the Use of Biological Samples

Due consideration must be given to possible socio-cultural consequences of research using human tissues. Issues of religious and cultural sensitivity to the collection, storage and use of particular human tissue samples should be considered. Under some circumstances, tissues may belong to a group who are more readily identifiable and may subsequently be at some risk of discriminatory treatment.

The rarity of some genetic disorders might allow certain families or individuals to be identified by other researchers and in some cases by members of the community, even if information is given to others in non-identifiable form. For this reason, where genetic data are stored, confidentiality might sometimes require restrictions on the release of data for research use.

VI. Imported Tissues

Where tissue is imported or obtained from an external tissue bank from for use in Qatar, researchers should try to establish whether there are ethical and regulatory policies in that country, or its relevant institution, governing the collection of tissue for use in research.

(a) Where such a policy exists, and reasonable enquiry reveals no reason to believe the collection of the tissue contravened it, and the activity involves non-exempt human research, the IRB committee or Human Research Ethics Committee may consider waiving consent for the use of this tissue. When there are reasons to believe that the collection contravened the policy, the above mentioned committees will not authorize the use of such tissue.

(b) Where it cannot be established that a policy exists, those intending to import tissues to Qatar for non-exempt human research will have to demonstrate that the collection was made in accordance to the present policy.

(c) For research with tissues that were collected either imported or existed overseas before the release of this policy, and the activity involves non-exempt human research, the IRB committee or Human Research Ethics committee may consider waiving consent without reference to (a) and (b) above.

(d) The transfer of the tissue shall be subject to a Materials Transfer Agreement (MTA). The MTA must document the formal transfer of authority from the external institution to institutes in Qatar with respect to management of the tissue.

MATERIAL TRANSFER FORM

Importing/Exporting Biological Samples

A. Principal Investigator

Name:
Academic Rank:
Tel/Fax:
Department / Unit:
Faculty:
Email:

B. Other Party Sending or Receiving the Material

Organization:
Contact Name:
Tel/Fax:
Email:
Address:

C. Material and Research Project

Nature of material:
Type(s) of material (check all that apply) Biological Samples:

Progeny, unmodified derivatives, or descendent copies will be made from the materials: Unmodified Derivatives: Substances created by company that constitute an unmodified functional product Materials: the biological samples plus Progeny and Unmodified Derivatives Commercial Purposes: Tissue culture Cell line, reagents, etc. Animal species Other (please specify)
Is a Research Account associated with this material? Yes (please specify) No
How will the material be used? (Attach an additional sheet if necessary)
For how long will the material be used? (e.g. 2 years)
Have any non-disclosure agreements been signed in connection with the materials or research? Yes No
Do you anticipate any commercially valuable or patentable inventions or results being developed from use of the materials?

Principal Investigator is: **Recipient** of the material - **go to Section D** **Provider** of the material - **go to Section E**

D. Information on Materials Received by Principle Investigator

Which of the following sources of funding will be used to support the research using this material?	
Industry	Please Specify
Government	Please Specify
Non-profit	Please Specify
Will the materials be used in conjunction with any other materials received from a third party?	
Yes (please identify other material(s) and provider(s))	
No	

E. Information on Materials Provided by (please place the institute name)

Who is the original developer or creator of the material?	
Which of the following sources of funding were used to develop the materials?	
Industry	Please Specify
Government	Please Specify
Non-profit	Please Specify

Are the materials relevant to any previous or pending disclosures to the University-Industry Liaison Office? No Yes (please list all that apply)

F. Ethics and Compliance

Does your research project, or the material being transferred involve the use of Humans, Human Tissue, Animals or Bio-hazardous Materials? No - please proceed to **Section G** Yes The transfer or project requires a Certificate of Approval. Please provide additional details as below:
Does the project material transfer involve: Human Tissue? No Yes Certificate intiated by IRB committee / Application number
<u>Animals?</u> No Yes Certificate inititated by IACUC committee / Application number <u>Bio-hazardous Materials?</u> No Yes Certificate intiated by IBC committee / Application number

G. Approval and Signature

If the material is non-hazardous, non-human in origin, not to be used for *in vivo* or *in situ* research, and is not subject to intellectual property restrictions, a Material Transfer Agreement may not be required. Some academic and non-profit institutions have agreed to transfer materials without a Material Transfer Agreement.

Do you propose that, if this transfer of materials meets the above criteria, the transfer occurs without entering into a Material Transfer Agreement?

No

Yes

PRINCIPAL INVESTIGATOR SIGNATURE: *By signing this form, I certify that the foregoing is true and correct to the best of my knowledge, and I agree to comply with Ministry of Public Health policies and regulations*

Signature

Name

Date

References:

1. Ethical Perspective on the Research Use of Human Biological Materials
http://bioethics.georgetown.edu/nbac/hbm.pdf

2. HRPP Policy 445: Use of Stored Data and Biological Specimens in Human Research
http://www.yale.edu/hrpp/policies/index.html

3. Guidelines for Human Bio specimens for Storage and Tracking Within the NIH Intramural Research program
http://sourcebook.od.nih.gov/oversight/BiospecimenGuidelines.pdf

4. Issues to consider in the research Use of stored data or Tissues
http://www.yale.edu/hrpp/policies/index.html

5. NIH requirements for the research use of stored human specimens and
http://ohsr.od.nih.gov/info/pdf/InfoSheet14.pdfdata