Fred Hutch Cancer Center

Institutional Review Board

Policy/Procedure

Title:	IRB Review of Genomic Data Sharing Studies
Version:	1.00
Effective Date:	February 3, 2025
Responsible Office:	Institutional Review Office (IRO)
Responsible Official / Approved By:	Meghan Scott, IRO Director

POLICY STATEMENT

The Institutional Review Board (IRB) is responsible for overseeing research activities in accordance with the federal regulations which govern human subjects. As part of the IRB's oversight, it will review all requests to allow sharing of genomic data, which may be required in support of institutional sign-off and/or certification for the genomic data sharing.

DEFINITIONS

Coded: any identifying information (such as name) that would enable the investigator to readily ascertain the identity of the individual to whom the private information or specimens pertain has been replaced with a number, letter, symbol, or combination thereof (i.e., the code) and a key to decipher the code exists, enabling linkage of the identifying to the private information or specimens.

Controlled-access: Data are available to an investigator for a specific project only if certain stipulations are met.

dbGaP (database of Genotypes and Phenotypes): A central data repository at the National Center for Biotechnology Information (NCBI), a branch of the National Library of Medicine.

De-identified Data: Note that this definition is specific to NIH's Genomic Data Sharing policy. Data that has been de-identified according to the following criteria: the identifiers of data subjects cannot be readily ascertained or otherwise associated with the data by the repository staff or secondary data users (45 CFR46.102(f)); the 18 identifiers enumerated at 45 CFR 164.514(b)(2) (the HIPAA Privacy Rule) are removed; and the submitting institution has no actual knowledge that the remaining information could be used alone or in combination with other information to identify the subject of the data.

Fred Hutch IO: A Senior Official at the institution who is credentialed through NIH eRA Commons system and is authorized to enter the institution into a legally binding contract and sign on behalf of an investigator who has submitted data or a data access request to NIH. The Fred Hutch Institutional Official who has the authority to provide institutional certification for data sharing under GWAS and GDS Policies is the Fred Hutch Director of the Office of Sponsored Research.

Genomic Summary Results: Note that this definition is specific to NIH's Genomic Data Sharing policy. GSR, previously referred to as "aggregate genomic data" or "genomic summary statistics," are generated from primary analyses of genomic research. GSR "convey information relevant to genomic associations with traits or diseases across datasets, rather than specific to any one individual research participant. GSR are defined to include those provided by a study's investigator, if any, as well as summary statistics that may be computed by relevant NIH-designated data repository across all non-"sensitive" studies with data included in that repository. GSR include systematically computed statistics such as, but not limited to 1) frequency information (e.g., genotype counts and frequencies, or allele counts and frequencies); and 2) association information (e.g., effect size estimates and standard errors, and p-values). These values may

be defined and calculated using scientifically relevant subsets of research participants included within study populations (e.g., disease, trait-based, or control populations).

Large-scale genomic data: The GDS Policy applies to all NIH-funded research that generates large-scale human or non-human genomic data as well as use of these data for subsequent research. Large-scale data include genome-wide association studies (GWAS), single nucleotide polymorphisms (SNP) arrays, and genome sequence, transcriptomic, metagenomics, epigenomic, and gene expression data. Examples are included below. See Supplemental Information to the NIH Genomic Data Sharing Policy for more examples.

- Sequence data from more than one gene or region or comparable size in the genomes of more than 1,000 human research participants.
- Sequence data from more than 100 genes or region of comparable size in the genomes of more than 100 human research participants.
- Sequence data from more than 100 isolates from infectious organisms.

NIH GWAS Data Repository: Also known as the "Database of Genotype and Phenotype (dbGaP)," the NIH GWAS Data Repository is a database developed by the National Center for Biotechnology Information (a division of the National Library of Medicine) to archive and distribute the results of studies that have been investigated.

NIH-designated repository: Any data repository maintained or supported by NIH either directly or through collaborative.

Unrestricted-access: Data are accessible to anyone via public website (previously referred to as "open access").

PRINCIPLES/OVERVIEW

The IRB will review proposed genome wide association studies, including those accessing genomic data and those generating genomic data, in accordance with the applicable regulations governing human subjects research. When applicable, broad sharing of study data will be reviewed against the foundational consent along with the Genomic Data Sharing Supplement to determine if the data sharing plan is appropriate.

INDIVIDUALS AFFECTED BY THIS POLICY

The contents of this policy apply to Institutional Review Office (IRO) staff, IRB members, Principal Investigators and the research team.

PROCEDURES

1. **Studies with no requirements or provisions for broad sharing of studies generating genetic data.**

    a. **Submission to the IRB**: If no broad sharing of genetic results is planned or required, the IRB will follow regular review processes outlined in *HRP-121 - POLICY - New Application,* or *HRP-119 - POLICY - Modification of Ongoing Activities*. Investigators complete a New Study or Modification submission in Hutch IRB, attaching *HRP-250 - FORM - IRB Application (Contact) or HRP-251 – FORM – IRB Application (No Contact);* or *HRP-252 - FORM - Modification Supplement,* as appropriate. No additional review or actions are required.

2. **Studies that will create genomic data that will be shared with the wider research community:**

    a. **Submission to the IRB**: Requests for broad sharing of genomic data may be submitted to the IRB at initial review (for new studies) or via modification (for ongoing studies). Investigators create and submit a New Study or Modification submission in Hutch IRB, attaching *HRP-250 - FORM - IRB Application (Contact)* or *HRP-251 - FORM - IRB Application (No Contact);* or *HRP-252 - FORM - Modification Supplement* for IRB review as appropriate. In addition, the Investigator will attach the following information to the submission in Hutch IRB*:*

        i. *HRP-268 - FORM - Genomic Data Sharing Supplement*;

ii. Data Sharing Plan for the dataset to be shared;

iii. All applicable Foundational Consent Form(s); and

iv. Any documentation or certifications required to share the genetic data.

b. IRB Review Process:

i. Genomic studies submitting data to databases/repositories intended for broad access (e.g., dbGaP, caBIG, TGEN, etc.).

1. The IRB generally only reviews requests for genomic data sharing when Fred Hutch is the IRB of record for the study that generates the genetic data to be posted into the database and Fred Hutch is the institution uploading the data to the database.

2. For instances where Fred Hutch is not the uploading institution, the IRB can provide an "opinion letter" to the reviewing IRB as to whether the data upload would be allowable or if any restrictions are required, based on the IRB's review of the foundational consent forms.

3. To ensure risks are minimized, the IRB will consider the extent to which the dataset is de-identified. It will also consider the repository or mechanism through which the genetic/genomic data will be shared.

4. The IRB will review any foundational consent forms and assess the extent to which participants were informed of broad sharing of their genetic data. In reviewing the foundational consent forms, the IRB will consider any restrictions outlined in the consent form, including opt-in / opt-out decisions.

5. <u>For studies deriving genomic data from specimens collected before January 25, 2015:</u> The IRB will review *HRP-268 - FORM - Genomic Data Sharing Supplement,* including any foundational consent forms to determine if the consent documents are silent or if the data was collected without informed consent; the IRB may consider whether broad sharing of the dataset is <u>not</u> inconsistent with any consent provisions; whether broad sharing requires re-consent of participants; and/or or any other findings in accordance with governing regulations and policies of the database.

   <u>For studies deriving genomic data from specimens collected on or after January 25, 2015:</u> The IRB will require copies of **all versions** of the foundational consent forms that were used to consent participants whose genetic data would be shared broadly. The foundational consent forms <u>must</u> discuss broad sharing of genomic data or controlled access of data that is shared.

6. If the IRB determines foundational consent(s) described in *HRP-268 - FORM - Genomic Data Sharing Supplement* is not consistent with the foundational consent forms and/or governing regulations and policies, the IRB can disapprove the request to upload data or require restrictions on the future use of the datasets.

7. Genomic Summary Results (GSR): The IRB will consider whether GSR should be made available through unrestricted access or if the GSR is sensitive and should be maintained under controlled access. Most GSR is not considered sensitive; however, the investigator and IRB should consider the privacy risks that may be heightened for some study populations, such as those from isolated geographic regions, those with rare traits, or those with potentially stigmatizing traits.

ii. **<u>Additional requirements for submissions to dbGaP</u>**

In accordance with NIH requirements, the Committee will review and verify that:

1. The submission of data to the NIH GWAS data repository and subsequent sharing for research purposes are not inconsistent with the informed consent of study participants from whom the data were obtained;

2. The investigator's plan for de-identifying datasets is consistent with the standards outlined in the policy;

3. It has considered the risks to individuals, their families, and groups or populations associated with data submitted to the NIH GWAS data repository; and

4. The genotypic and phenotypic data to be submitted were collected in a manner consistent with 45 CFR Part 46.

c. Post-Review Process

i. The IRB Analyst will prepare a formal result letter to communicate the IRB's determination regarding the genomic data sharing review. The IRB correspondence is sent to the PI, Primary Contact, and PI Proxies. These individuals will receive an automated email notification from Hutch IRB that provides a link to the submission, where the formal result letter is available for download. The IRB result letter will include the following information:

1. A list of foundational consent forms that were reviewed
2. The IRB's determination as to whether the upload is allowed
3. Any restrictions that apply to the future use of the data
4. Whether individual-level data are to be made available through controlled-access or unrestricted access
5. Whether genomic summary results (GSR) may be provided by NIH to researchers through unrestricted access or may only be made available by NIH to researchers through controlled access

3. Research study that will access a repository with genomic data:

a. Submission to the IRB: Studies that will conduct research using data taken from a genomic data repository must submit a New Study in Hutch IRB, attaching the appropriate IRB Application to the submission (see *HRP-121 - POLICY - New Application*). The submission should disclose the source of data. The only exception is if the only data source for the research is on the list of IRB Pre-Reviewed Sources of De-identified Human Specimens and/or Data.

b. IRB Review Process: Review of these types of studies will be done in accordance with *HRP-121 - POLICY - New Application*.

4. Other Responsibilities: Preparation of Data Use or other Institutional Certifications that permit sharing of genomic data: After IRB review and approval of these activities, researchers may be required to satisfy other requirements of the sponsor or institution including, but not limited to Institutional Certifications, Data Use Certifications, etc. These shall be completed in accordance with the database/repository requirements.

a. Fred Hutch will only issue Institutional Certifications for data posted to the repository/database directly from Fred Hutch generated genomic data where Fred Hutch is the IRB of record for the project generating the data.

b. If the investigator needs to submit an institutional certification to permit the sharing of genomic data, the investigator will incorporate the IRB's determinations into an NIH Extramural Certification Form (or equivalent form for other databases), sign, and send to the IRO for processing. A Genome Data Sharing (GDS) Institutional Certification Information Sheet must accompany the submission to the IRO.

c. The IRO will confirm that the Institutional Certification matches the IRB's determinations. Once confirmed, the IRO will route the completed IC and the GDS Institutional Certification Information Sheet to the Office of Sponsored Research for signature by the Director of the Office of Sponsored Research. Data Use Certifications for (accessing) the NIH dbGaP database are signed by the Director of Sponsored Research. Other certifications are signed by the appropriate party per the requirements of the specific database / repository.

SUPPORTING DOCUMENTS

HRP-119 - POLICY - Modifications to Ongoing Activities

HRP-121 - POLICY - New Application

HRP-250 - FORM - IRB Application (Contact)

HRP-251 - FORM - IRB Application (No Contact)

HRP-252 - FORM - Modification Supplement

HRP-268 - FORM - Genomic Data Sharing Supplement

REFERENCES

45 CFR 46.109(a)

NIH Genome-Wide Association Studies (GWAS) website

NIH Policy for Sharing of Data Obtained in NIH Supported or Conducted Genome-Wide Association Studies

NIH Genome-Wide Association Studies (GWAS) Points to Consider (11/12/07)

NIH Genome-Wide Association Studies (GWAS) Frequently Asked Questions

NIH Genomic Data Sharing Plans (NIH Policy, January 25, 2015)

VERSION HISTORY

Version	Effective Date
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