ACMG
American College of Medical Genetics and Genomics
Translating Genes Into Health®

February 28, 2022

Lyric Jorgenson, PhD
Acting Director, Office of Science Policy
National Institutes of Health

Re: NIH Request for Information on Proposed Updates and Long-Term Considerations for the NIH Genomic Data Sharing Policy (NOT-OD-22-029)

Dear Dr. Jorgenson:

On behalf of the American College of Medical Genetics and Genomics (ACMG), we appreciate the opportunity to provide comments in response to the National Institutes of Health (NIH) Request for Information on Proposed Updates and Long-Term Considerations for the NIH Genomic Data Sharing Policy (NOT-OD-22-029).

ACMG is the only nationally recognized medical professional organization solely dedicated to improving health through the practice of medical genetics and genomics, and the only medical specialty society in the US that represents the full spectrum of medical genetics disciplines in a single organization. ACMG is the largest membership organization specifically for medical geneticists, providing education, resources, and a voice for more than 2,400 clinical and laboratory geneticists, genetic counselors, and other healthcare professionals, nearly 80% of whom are board-certified in the medical genetics specialties. ACMG's mission is to improve health through the clinical and laboratory practice of medical genetics as well as through advocacy, education and clinical research, and to guide the safe and effective integration of genetics and genomics into all of medicine and healthcare, resulting in improved personal and public health.

Responses to specific section of the Request for Information are provided below.

I. Maximizing Data Sharing while Preserving Participant Privacy Preferences

1. De-identification.

Approaches for de-identification of genomic information outside of those specified in the current NIH GDS Policy should be considered. Given the different scenarios and consents that surround collection of genomic information, and the importance of advancing science while protecting research participants, flexibility is important.

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Adding expert determination as described in 45 CFR 164.514 (b)(1) as an option may be one way to increase flexibility by permitting appropriate risk-mitigation strategies to be tailored on a case-by-case basis. However, careful consideration would need to be given to the qualifications necessary for an individual to participate in an expert determination for a genomic research study. Experts, such as board-certified genetics professionals, should be employed as they have a deep understanding of the type of genetic information being collected, stored, and/or shared.

Case-by-case determinations or risk mitigation strategies should also be regularly reevaluated to assess if they still achieve deidentification since changes may occur over time, such as advancing computational capabilities and availability of other data sources and evolution of research methodologies. Further, the general definition of deidentified data should be reanalyzed on a frequent basis with the risks of reidentification and discrimination balanced against the benefits that sharing genetic data provides in contribution to biomedical research.

2. Use of potentially identifiable information.

The definition of deidentified information, and thus what is considered potentially identifiable, should be reanalyzed at a frequency to determine risks of reidentification and discrimination as technology advances versus the benefits that sharing deidentified data for patients and further research. These risks vary by the usage of the data and what is being shared. For example, there may be more risk with shared individual data than data that is shared in aggregate or is summarized. However, aggregated data may lose some utility for the study of more multifactorial disease states where it is the combination of genetic (and non-genetic) factors in a single individual that is critical, yet the linkage of all of these elements as existing in the same individual may be sufficient for re-identification of the individual. This requires consideration of required electronic data protection standards for all public and private entities that have access to the potentially identifiable information.

This is further emphasized in an ACMG policy statement on Stewardship of Patient Genomic Data (https://doi.org/10.1016/j.gim.2021.11.001) which noted that clinicians should alert patients of laboratory policies noted in the laboratory consent/requisition form about how a patient results and data may be shared in de-identified form for research and give patients a choice about whether to participate. This means that laboratories would need to have this information as an opt-out or opt-in portion of their laboratory consent and be responsible for having statements

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regarding data sharing in their consent if there is a possibility of data sharing in the future

3. Data linkage.

Data linkage should be allowed for datasets that have an adequate informed consent for research and meet the GDS policy for de-identification. Clinical usage data should be allowed even if it does not meet all of the GDS policy expectations as long as the patient has signed an informed consent that covers relevant information. Further, the consent for clinical usage should be separate from consent for research. Data should be submitted in these situations as de-identified such that only the submitting institution has the identifying information or key to link together information. Data should only be shared through secure submission portals and, when possible, in aggregate.

4. Consent for data linkage.

In some cases, data collected for clinical purposes may also be used for research. Consideration must be given to the differences between secondary uses of data collected for clinical purposes under the Common Rule protections and data collected specifically for research as necessary components of consent may differ. For specimens collected for clinical purposes, the clinical consent should be separate from the consent for future research. In either case, the consent should disclose potential uses of the genetic information and the biological specimen including the individual's rights and ability to access their own genomic data, ability to control the use and sharing of their data, and any limitations to their ability to withdraw consent for further research.

While consents should attempt to clearly explain how data will be used, in many cases it may not be possible to predict all potential future uses of data. Thus, consideration should be given to more granular models of consent. Regarding data linkage, it may be necessary to define policies based on different tiers of linkage, including how this may differ if linking data collected under the GDS policy with data initially collected for other purposes. If at any point data will be linked to identifiable data, a new consent should be required to be obtained by the investigator creating the new linkage. Further, as deidentification standards are updated over time, new consents may be necessary so that participants remain informed of how their data is being used.

II. Expectations for Alternative NIH-Supported Genomic Data Management and Sharing Resources that Store Human Genomic Data

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5. Data management and sharing principles for NIH-supported resources.

a. Regarding the principles described for Data Submission, any genomic sequencing without the express consent of the individual should be considered an invasion of privacy except for possibly specific applications (e.g., law enforcement) where additional protections exist.
b. Regarding aspects of the principles described for Data Access, data access should be outlined in the data transfer and use agreement. Federal legislation may be needed to clearly define inappropriate data access and establish enforcement of penalties for inappropriate access.
c. Regarding aspects of the principles described for Data Security, data security is the duty of the laboratory or research entity holding the data. They should ensure that any entity to which data is transferred has the appropriate security. Data security should include secure portals and storage of data behind appropriate firewalls and up-to-date protections as technology advances.

IV. Long-Term Consideration of the Scope of GDS Policy

As technology continues to evolve, this policy may need to be revisited frequently. Consideration will also need to be given to biological information beyond just genomic, such as proteomic and metabolomic. All studies, regardless of size, should be covered by the GDS Policy. However, the GDS policy should be developed with both small and large studies in mind. In situations where NIH-funded research generates large-scale genomic data, but NIH's funding does not directly support the sequencing itself, the GDS Policy should still apply.

We appreciate this opportunity to provide feedback on the NIH's Genomic Data Sharing policy and look forward to the opportunity to review the new draft policy that will be developed based on stakeholder feedback.

Sincerely,

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President
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