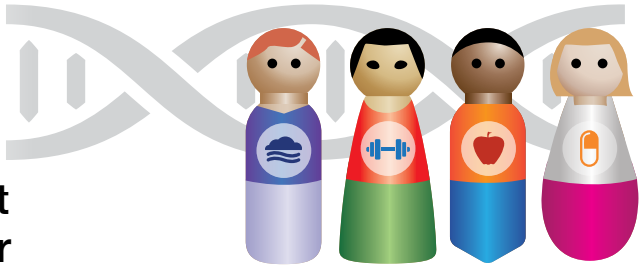
National Institute of Environmental Health Sciences



# PEGS Personalized Environment & Genes Study Newsletter

*Powerful science for integrating genomic and environmental data to understand human health*

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## Message From Janet Hall, M.D., and Alison Motsinger-Reif, Ph.D.

Greetings to all of our participants. We are excited to announce that the NIEHS Environmental Polymorphisms Registry had taken on a new name because of your contributions coupled with important scientific advances. This registry is now the Personalized Environment & Genes Study (PEGS), and the study has new leadership. While we will continue to study the relationship between genes and the environment, we are now able to do so on a much larger scale. This growth will allow researchers to improve the information they share to learn more about their risks for common diseases.

## PEGS Recontact Starting Soon

We will begin our outreach to you in the coming months, asking you to complete the following information:

- **Updating Contact Information.** We would like to know how best to reach you. This will make it easier to inform you on ways to stay involved and provide you with important PEGS updates.
- **Consenting to Share Your Medical Records.** PEGS will be asking for your permission to securely view information in your medical records. When we are able to combine health records with your survey responses and genetic information, we gain a more complete picture of your health.
- **Consenting to PEGS Data Sharing.** PEGS findings not only impact your health, but also the community at large. By providing consent to share your data in other secure storage locations, new publications will be able to reach larger audiences with potentially lifesaving discoveries.
- **Consenting to Whole Genome Sequencing.** Many of you have already consented to sequencing, allowing researchers to learn more about health and disease. If you have not yet participated in sequencing, we will be inviting you to consent and start.
- **Reaching Out.** Please reach out to us if you have any questions at all about the new consents or anything else to do with this important study.

## PEGS Activities

The contributions you have made to this study over the last 20 years have allowed researchers to use new study methods to:

- **Determine Factors That Increase Risk of Disease.** PEGS is able to study the relationship between the environment and genes to identify factors that increase the risk of several common diseases, such as diabetes, heart disease, stroke, psoriasis, rheumatoid arthritis, allergies, asthma, cancer, and more.
- **Improve Disease Risk Prediction.** By using genetic information along with environmental exposures and clinical data, we are able to study how to improve the prediction of disease risk.
- **Identify Differences in Risk Factors.** Using study data, PEGS is able to examine the differences in age, race, or ethnicity to determine if this can increase the chances of disease.
- **Understand Diseases and Their Causes.** Using your contributions to PEGS, we are able to identify key hypotheses about how the environment and our genes affect health.


## COVID App Recruiting Underway

We are continuing to study how environmental exposures may impact the risk of developing COVID-19 as part of the Coronavirus Pandemic Epidemiology (COPE) consortium. Early in the pandemic, this consortium was able to:

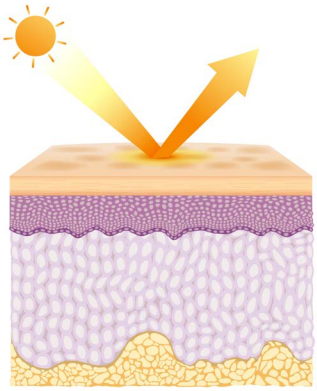
- Find that front-line health care workers were at an increased risk of developing COVID-19.
- Recommend that health care systems develop more strategies to protect these workers in addition to providing personal protective equipment (PPE).

**To participate**, download an app and share your experience. Learn more at https://www.monganinstitute.org/cope-consortium. Once you download and open the app, select that you are a part of the NIEHS Personalized Environment & Genes Study.

## Recent Scientific Findings From PEGS

Your contributions have helped PEGS researchers make important discoveries. One study, published here, worked with PEGS participants to examine attitudes about receiving genomic findings that relate to a subset of diseases that are treatable or preventable. For example, participants who have mutations in BRCA1 and BRCA2 genes have an increased risk of breast and ovarian cancer. PEGS participants who consent to whole genome sequencing are given the option to consent or opt out of receiving genomic findings. Researchers assessed the individuals to determine if they would change their mind after receiving more information. This study adds important data to the expanding field of genomics research.

Another study found that environmental exposures can impact specific genes that are linked to immune-related diseases (like asthma). PEGS will continue to study this relationship to see if these common diseases are preventable. For more information about this study, please click here.



A third study researched the impact that UV exposure from the sun can have on healthy, sun-exposed, and sun-shielded skin. The important results indicate that both age and UV exposure can change genes, which may lead to the development of diseases, like skin cancer. If you want to learn more about this study, please click here.

### For more information:

**Call: 1-866-809-1261**

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Visit our website: **https://joinastudy.niehs.nih.gov/studies/pegs**